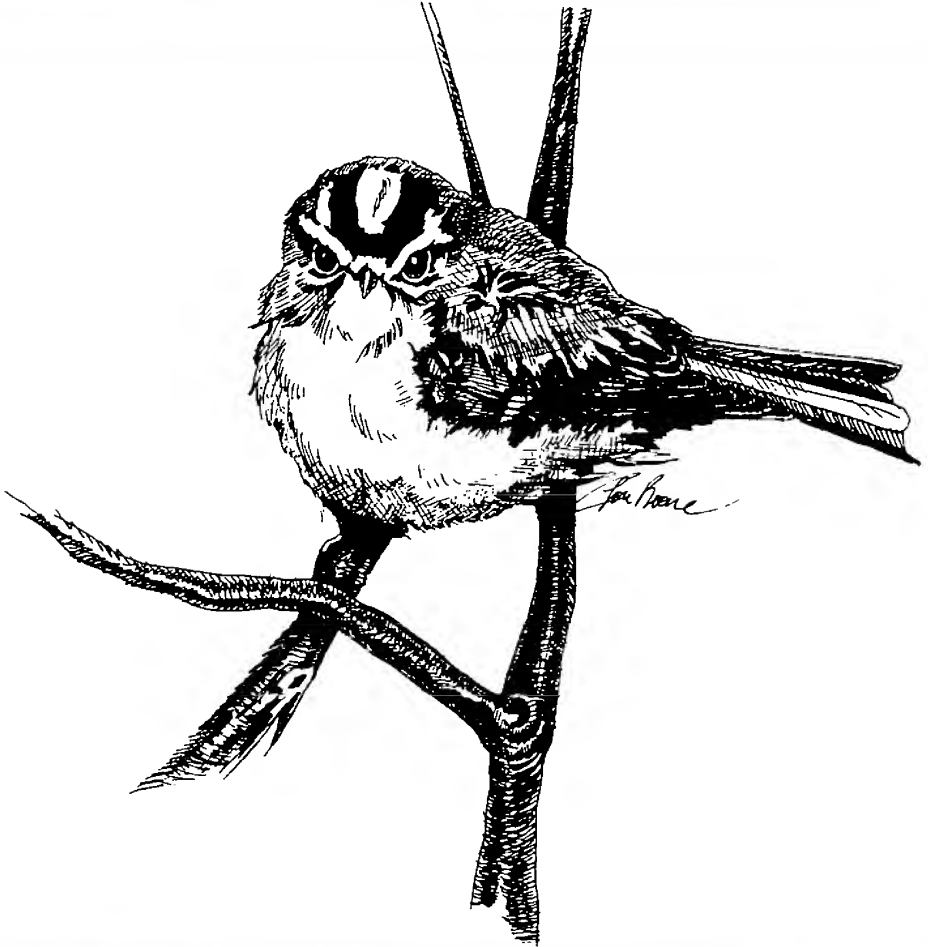


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A MARYLAND NESTING OF THE GOLDEN-CROWNED KINGLET

JON E. BOONE

On June 23, 1982, my son Jon and I went hunting for Golden-crowned Kinglets (*Regulus satrapa*). My brother Dan had heard them singing at numerous sites in and near his Garrett County bogs and, a month before (May 13), had seen a Golden-crowned Kinglet nest 30 feet high up in a Red Spruce at Rock Lodge. More recently, Dan had heard kinglets near New Germany State Park, a location only about 15 minutes from Carey Run Sanctuary. Armed with this news and a taped recording of a Screech Owl, Jon and I set out for the park.

Throughout the morning we searched the terrain behind the park's administration building. We saw a Rose-breasted Grosbeak, a Magnolia Warbler, Black-throated Green Warblers and numerous Prairie Warblers. No kinglets, however.

Because I wished to visit the New Germany Nature Center, we drove the short distance from the administration building to the middle of the park. At noon, near the lake, just before stopping the car, we heard what appeared to be an ebullient Black-capped Chickadee song, but somehow thinner, higher in pitch. Again the song — lisping notes, high and wiry, descending in tone toward inaudibility. It was the song of the Golden-crowned Kinglet. We ran toward the conifer grove from which the song came and “spished” the bird out. It soon ignored the intrusion and kept singing, finally flying across the road into deeper woods.

My son and I began the trek to the nature center, along a small pebble-lined road. Again we heard a kinglet song, this time behind Cabin number 11. Our binoculars scanned the trees and pinpointed two kinglets fluttering on the edge of a tall pine. We approached the birds, with Screech Owl tape emoting. Immediately, the kinglets streaked towards us. The female kept a respectable distance but the male perched within six feet, spreading his flaming orange crown before us. He repeated the display, then joined his mate. The birds maintained this behavior in response to the tape for about 10 minutes before escaping from view. Meanwhile, a pair of Purple Finches and many Song Sparrows remained in a state of agitation.

We visited the Nature Center and returned to the area 40 minutes later, playing the Screech Owl tape once more. The kinglets returned, not so close this time.

Acting on a hunch, I sat, waiting and watching. The kinglets stayed in the area, feeding in their characteristic way at various sites. However, the female returned several times to a spot low on a Norway Spruce (*Picea abies*) bough. And on her last trip, my binoculars revealed she was carrying nesting material!

With this evidence at hand, I asked my son to examine the spruce bough. I only had to ask twice. He walked the 50 feet to the base of the 45 degree slope atop which the spruce stood. The branch was actually below the base of the tree, drooping down and out over the slope toward the lake. It was about ten feet above the surface of the slope. The tree itself stood approximately 60 feet tall.

In a few seconds Jon discovered the nest, a green, globular cyst fastened to the branch in three places with extremely sticky spider webbing. It was composed primarily of Feather Moss (*Hypnum imponens*) and contained at least five species of lichens (*Parmelia rudbeckia* and four species of *Cladonia*). The nest measured 3.5 inches tall and 3 inches wide. The inner rim was an oval, $2 \times 1\frac{1}{2}$ inches. The depth from the bottom of the cavity to the rim was $2\frac{1}{4}$ inches.

When I stood on the slope, the nest was most accessible. It appeared nearly complete, although the fact there were no eggs and that the female was still with nesting material indicated there might be need for a few final touches. Egg laying seemed imminent.

The kinglets remained close but out of our view while we examined the nest. We stayed only a few minutes, fearing our presence might cause the birds to desert or that we would create a scent trail which a grateful raccoon might follow. We therefore retreated to a hiding place about 50 yards distant. After a half hour of inactivity, I decided to leave the area and search for Bobolinks.

That night, back at Carey Run Sanctuary, I reviewed the fact of the kinglet nest in light of what I knew of such events. To my knowledge, the nest was the second to be found in the State and the first that lent itself to intense observation. A number of people over the years had reported hearing Golden-crowned Kinglets singing in Garrett County but, aside from the nest Dan found at Rock Lodge, no one had seen such a nest before in Maryland. I had seen Golden-crowns the previous year in Swallow Falls State Park and Dan had sighted them in spruce trees at elevations above 2500 feet throughout Garrett County—Wolf Swamp, Cranesville, Backbone Mountain, Cunningham Swamp. Earlier in the month of June, he had seen a Golden-crowned Kinglet family out of the nest in a virgin Hemlock stand at Swallow Falls.

In July, 1981, Robert Ringler heard a kinglet song in planted Norway Spruce in northern Carroll County—and at an elevation of only 750 feet. A year later, Bob heard Golden-crowns singing in the same area. There seemed to be more of them than the previous year but this may have been because there were more observers in his party.

New Germany State Park itself is 2500 feet above sea level. There are numerous stands of Norway Spruce throughout the park. These were established in the 1930s by the Civilian Conservation Corps and, by 1980, had arrived at maturity.



Plantations of Norway Spruce are an increasingly important habitat for breeding Golden-crowned Kinglets in Maryland; nearly one-third of all summer reports are from this habitat. These conform to the adumbrations made by Robert F. Andrie (1971), a staff member of the Buffalo Museum of Science. Andrie showed that, in those areas of New York State where there were mature Norway Spruce stands, Golden-crowned Kinglet nests were common, even at elevations below 2700 feet. In these artificially planted spruce forests, mostly created during the period 1931-1936 and mostly consisting of Norway Spruce, the elevation ranged from 1200 to 2400 feet. In them, Golden-crowned Kinglet breeding density averaged one pair to two acres.

Before Andrie's discoveries, the accepted belief was that either high altitude or a northerly latitude was a necessary factor in Golden-crowned Kinglet breeding habitat. The records in Garrett County combined with Bob Ringler's finding of probable nesting kinglets below 800 feet, suggest the spruce, particularly the Norway Spruce, is a sufficient factor causing range extension of the bird.

Perhaps the most comprehensive account to date of Golden-crowned Kinglet nesting behavior came from Arthur Cleveland Bent. Bent (1964) received reports of numerous kinglet nestings in New England, all at high altitude or northerly latitude. Almost all reports placed the nests high up in coniferous trees. There was occasional mention of nests six to eight feet from the ground, all of these near water.

Golden-crowned Kinglets typically raise two broods annually. The female requires about a month to build the nest and works alone. The male defines and defends the territory. The incubation and nestling period for this species has not been rigorously documented, though a few accounts argue for times of 16 and 18 days respectively.

Jon and I returned to New Germany at mid-morning on the next day, June 24. The kinglets were still there, both defending the nest against a Chipping Sparrow and an encroaching Robin. We again inspected the nest, finding no eggs. The sky was clear and the temperature at noon was 73°F. As before, we left very quickly, all the while trying to observe the kinglets. They remained hidden from view until I played a taped recording of a Golden-crowned Kinglet song. At once, the male responded. He flew at us straight-away, lighting in a small fir about three feet from my shoulder. He sang, scolded and displayed that astonishingly brilliant crown—day-glo orange—which rivals the hue of any Northern Oriole. He flew off within minutes and never again seemed particularly responsive to that tape.

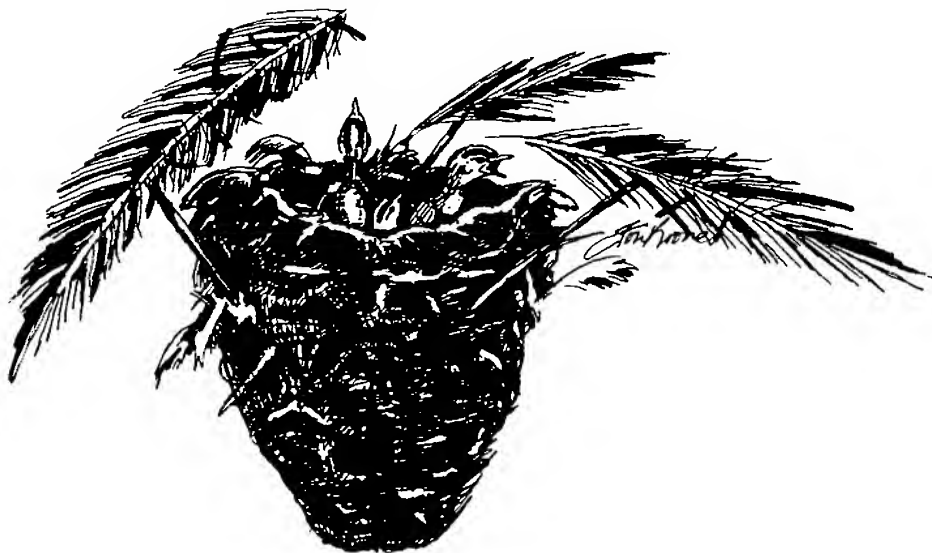
My son and I watched for another half hour, then strolled through the park and took a paddle-boat ride around the lake. At a number of intervals, I turned the recorder volume up to play the kinglet's song. I was able to call out within arm's reach five singing, displaying, resplendent Golden-crowns. New Germany was saturated with the birds, although we could not find another nest.

We stayed until late afternoon, enjoying the day. Before we left, we saw several immature Golden-crowned Kinglets searching for food in low branches. They were full-grown, certainly at least five weeks old, but had not yet developed the adult crown colors. This was a fairly positive indication that the nest we were watching was the second of the season.

On July 1, we returned to the nest and found the female sitting upon it. She allowed us to approach within a finger length before she took flight. Within the nest there were seven very small eggs, dull white, splotched with reddish-brown. They were in two layers, with four atop. Once more, we left the area quickly. Within minutes, the female resumed her incubation, leaving only occasionally to forage for food. Apparently my initial surmise was correct. The female laid her first egg on either June 24 or 25 and her last egg, the seventh, on July 1.

We did not return to the nest until Thursday, July 29. Both kinglets were busy feeding seven nestlings. The nestlings appeared to be at least 12 days old. They had fairly substantial tail feathers and were quite active around the nest, their heads extending high above the nest's rim. From noon until 6:00 p.m., we watched kinglets feeding their young. A sample from our notes:

female fed young; male fed 4 minutes, 20
seconds later; female fed, 4 min., 20 sec. after that;
male: 18 min., 33 sec.; male: 6 min., 18 sec.;
female: 7 min., 8 sec.; male: 3 min., 2 sec.;
female: 7 min., 28 sec.; etc.



Both birds entered the spruce from the side opposite the nest branch, and worked to the nest with one or two short flights along that branch. The male kinglet moved seemingly without caution. Certainly, he seemed unaffected by our presence. He flew efficiently, uttered no sound, and erected his brilliant crown feathers at each feeding. On the other hand, his mate refused to enter the nest if we were closer than 50 feet from it. She uttered a repetitious, atonal "zee" note whenever we approached. Upon hearing that note, the nestlings would disappear from view and did not reappear until one of the adults was at the nest. Both adult birds took turns feeding, although we could not ascertain the precise nature of the insect food. The young had very bright orange-red mouths, very visible whenever they sought food.

Every four or five feedings, the adult birds removed fecal sacs. However, rather than flying away some distance from the nest and dropping the sac at random, the Golden-crowns deposited it quite near the nest—from six to 50 feet—placing the small package with great care on the outer surface of a spruce needle. To a casual observer, these fecal remains would look quite like the “snake spit” substance in which young spittlebugs conceal themselves. Spittle bugs were a common adornment to the spruce throughout the area.

On Friday, August 6, we returned to New Germany for a final review of the situation. The nest was now empty but there were at least a half dozen very immature kinglets nearby, beseeching food from an adult. Closer inspection revealed the adult to be the female Golden-crown (she had a ragged dark brown band across her breast). There was no sign of the male. I talked with a park ranger who often had duty at the Nature Center and he stated that the kinglets were still feeding on Sunday morning, August 1. These dates give some clue about the incubation/nestling duration of this particular brood.

Assuming the incubation began on July 1, and that the nestlings were 12 days old on July 29, the incubation period lasted at least 17 days. Moreover, as the young were still in the nest on August 1, the nesting period continued not less than 15 days and more probably 18. The young birds we saw on August 6 moved with dexterity through the trees and flew short distances without any awkwardness. It is likely they had two days outside the nest in which to develop those skills.

This duration is compatible with those observed for the European kinglet species, the Goldcrest (*R. regulus*) and the Firecrest (*R. ignicapillus*). It also conforms to the times for the incubation and nestling periods which have been cited, albeit sketchily, for this species. Moreover, the weather in the Garrett County region during July and August was warm and somewhat dry, and certainly did not appear to affect the kinglets in any way.

Kinglets were abundant in the park that day (August 6). But there were other sightings of interest, including a pair of Blackburnian Warblers feeding an immature Cowbird which was twice the warblers' size. Our visits to the parks in July and August revealed conspicuous nestings of the Eastern Kingbird, Cedar Waxwing, Magnolia Warbler, and Chipping Sparrow.

The Golden-crowned Kinglet nesting, however, was the highlight of the season. I expect more kinglets will be found nesting in the State next year. Areas where large stands of planted spruce prevail should be sought out, particularly in Carroll, Frederick, Washington, Allegany, and Garrett Counties, to determine if the species' range extension continues. More accurate dating of incubation/nestling cycles is necessary. The kinds of insects fed to the young need to be identified. And more reports about the way fecal sacs are removed should be enlightening.

Many questions remain. Nonetheless, this first prolonged observation of a Golden-crowned Kinglet nesting in Maryland was worth the time, the gasoline, and the ordeal at the typewriter.

ACKNOWLEDGMENTS

I am grateful for the assistance of D. Daniel Boone for sharing his knowledge of Garrett County, his record of kinglet sightings and his county maps. In addition, he measured the dimensions of the kinglet nest. I also wish to thank Jon K. Boone for his patient cooperation, his note taking, and his willingness to do what I asked. Thanks and appreciation are also extended to George Fenwick for identifying the various mosses and lichens which comprised the nest. Robert F. Ringler was most gracious about providing me with his data about possible kinglet nesting in Carroll County. Finally, I thank Russell Chandler for his interest in this bird and hope he will continue his studies with diligence.

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THE SEASON

SPRING MIGRATION, MARCH 1—MAY 31, 1982

ROBERT F. RINGLER

The spring began with temperatures near normal during March, with the exception of the Allegheny Plateau where it was 2-3° above normal. Precipitation for the month was about a half inch below normal. The middle of the month was extremely warm, with Baltimore averaging 12° above normal for the period Mar. 11-14. Snowfall was almost entirely restricted to the mountains west of Frederick. Though heavy at times, the snow generally dissipated quickly. McHenry in Garrett County received 22 in. for the month.

Any migrants that arrived a little earlier than usual at the end of March were destined to suffer through the severe weather of early April. Strong gusty winds occurred across the state on 5 of the first 7 days of the month. Temperatures averaged 3° below normal. The 9-day period Apr. 4-12 was particularly cold; at BWI Airport the average was 12° below normal. It was a disaster for Purple Martins, which regularly arrive at this time to begin nesting. Eight were found frozen or starved to death at Denton on the 7th in 21° weather (C. Adams, L. Ott). Similar mortality was fairly common elsewhere, and breeding success may be affected this year as most of the casualties were certainly adults. A surge of migrants followed this cold snap and many early arrivals were recorded among the passerines. Precipitation was about an inch above normal for most of the state; less in the mountains. McHenry received 12½ in. of snow, mostly during Apr. 6—10.

Mild weather prevailed in May, with temperatures about 2½° above normal and precipitation about an inch below normal, most of that occurring in the last third of the month. The lack of recognizable frontal systems produced generally dull birding in most parts of the state, but several notable days were encountered. Among these were 31 species of warblers plus one hybrid found by Dan Boone and Barbara Dowell in western Washington County on the 16th, and 26 by David Czaplak in the District of Columbia and Montgomery County on the 9th.

Contributions to the Season report came from more new observers this spring, particularly in Western Maryland and the Lower Eastern Shore. The response is gratifying and I hope it continues to increase. Lots of timely reports make the writing of this column enjoyable as well as easier.

In the Migration tables the following notations are used: a "0" means the species was not reported in the county during the season; a "—" means it was reported but not on a recognizable arrival or departure date. Italicized dates are banded birds. Frederick and Carroll counties have been combined, with a "c" following the date

indicating an observation in Carroll; all others are Frederick. Similarly, Harford and Cecil counties are combined with an "h" for Harford and all others from Cecil. In Southern Maryland, observations from St. Marys County are followed by an "s" and may appear in either the Charles or Calvert column. Kent and Queen Annes counties are combined, with a "q" following the dates from the latter and all others being from Kent. The dates from Wicomico County are followed by a "w" and appear in either the Somerset or Worcester columns. This represents a significant expansion of the migration tables because more counties are identified than before. In the text a "+" after a person's name indicates other observers participated in the sighting.

Contributors

Garrett—Connie Skipper, Sallie Thayer.

Allegany—Chris Ludwig, Jim Paulus, Teresa Simons, Mary Twigg.

Washington—Dan Boone, Barbara Dowell, Leontine and Truman Doyle, Bob and Mary Keedy, Alice Mallonee.

Frederick—David Wallace.

Baltimore—John and Peg Barber, Warren Bielenberg, Gladys Cole, Bob Dixon, Haven Kolb, Joe Schreiber, Eddie Slaughter, Joy Wheeler, Jim Wilkinson. Field trip records courtesy of Jim Emerson.

Harford—Barbara Bilsborough, Dennis and Jean Kirkwood.

Cecil—Sean McCandless.

Howard—Brenda and John Bell, Jon E. and Jon K. Boone, Russell Chandler, Jr., George Chase, Martha Chestem, Eileen Clegg, Frances Dawson, Chuck Dupree, Jane Farrell, David Holmes, V. Krishnamoorthy, Paul Leifer, Mike Leumas, Grazina and Mike McClure, Helen Miller, Marjorie Mountjoy, Rosamond Munro, David and Elaine Pardoe, Jo Solem, Eva Sunell, Mark Wallace, Anne Walsh, Paul Zucker.

Montgomery—Larry Bonham, Margaret Donald, Robert Hilton, Paul O'Brien, Robert Warfield, Tony White, Erika Wilson.

District of Columbia—David Czaplak, Bill Hayes.

Prince Georges—Danny Bystrak, Ric Conn, John Gregoire, Sam Lyon, Chan Robbins.

Anne Arundel—Alex and Helene Hammer, Bob Melville, Pat Vanorny, Hal Wierenga.

Charles—Paul Nistico.

Calvert—Walter Kraus.

St. Marys—Ernie Willoughby.

Kent—Jimmy Gruber, Floyd Parks.

Caroline—W. Bright, V. Brown, Harold Christopher, Ethel and Harvey Engle, A. J. and Roberta Fletcher, Inez Glime, Marvin Hewitt, Alicia Knotts, Mariana Nuttle, J. Rinehart, Wilbur Rittenhouse, Carol Scudder, Christian Snyder, Irene Wheatley, David Wooters, V. Worm.

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Dorchester—Henry Armistead, Lester Coble.

Somerset—Debbie Mignogno, Jim Stasz.

Wicomico—Sam Dyke.

Worcester—Walter Ellison.

Pelagic Trips—Ron Naveen.

Reports to the Audubon Naturalist Society courtesy of Claudia Wilds.

Table 1. Spring Arrival Dates, 1982

Species	Medians 10-yr. 1982		Garr.	Allc.	Wash.	Fr/Ca	BaIt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Common Loon	4/12	4/4	4/4	3/21	—	4/9c	4/13	4/21	4/5	4/4	4/24	3/29	—	4/9	3/25	0	3/27	4/10	4/4	3/23
Horned Grebe	3/17	3/21	4/8	3/14	0	0	3/21	0	4/7	3/13	4/11	—	4/11	3/23	3/24	0	3/6	3/2	3/14	3/7
Pied-billed Grebe	3/13	3/21	3/21	3/28	3/29	2/12	3/21	3/20h	3/13	2/16	0	—	4/11	3/23	4/10	0	3/14	3/24	3/14	3/22
Double-crested Cormorant	4/9	4/10	0	0	0	0	4/17	5/1h	5/1	5/1	0	5/1	—	4/9	3/24	0	3/30	4/10	4/3	3/23
Great Blue Heron	3/15	3/20	4/11	4/3	—	2/23	—	3/20h	3/23	3/14	3/17	—	2/13	—	—	—	3/24	3/13	3/23	
Green Heron	4/17	4/23	—	4/24	4/17	4/29	4/18	4/25	4/8	4/18	4/24	4/25	—	4/25	4/23	—	4/18	4/25	4/19	—
Little Blue Heron	4/24	4/25	0	0	0	0	0	4/25	0	0	5/1	4/25	0	5/29	0	0	5/1	4/19	3/31	4/3
Cattle Egret	4 1/4 10	4/15	0	0	0	0	4/30	4/19	0	0	5/1	0	4/10	3/27	4/15	5/1	4/9	5/8	4/1	4/2
Great Egret	4/7	4/11	0	0	—	0	0	—	0	4/13	4/25	0	4/10	—	4/21	—	4/9	4/23	3/13	3/23
Snowy Egret	4/8	4/13	0	0	0	0	4/25	0	0	0	5/1	5/1	0	3/1	4/13	0	4/16	3/24	3/19	3/23
American Bittern	4/14	4/11	4/24	0	4/14	3/19	0	5/3h	4/11	4/8	—	—	0	—	4/13	0	0	3/24	3/13	0
Glossy Ibis	4/9	4/10	0	0	4/28	0	4/16	4/12h	0	4/23	3/21	3/30	0	4/10	0	4/17	3/26	4/10	3/13	3/17w
Whistling Swan	3/5	3/9	0	3/13	0	3/13	2/21	2/27h	2/21	3/5	0	3/18	3/13	3/1	3/17	—	—	—	—	—
Canada Goose	2/28	2/23	2/24	3/13	3/10	2/23	—	2/23h	2/23	2/15	2/20	—	—	—	—	—	—	—	—	—
Gadwall	3/13	3/19	2/25	—	0	0	3/21	0	3/18	0	3/20	3/27	0	4/2	3/6q	0	0	—	3/14	0
Common Pintail	3/2	3/6	0	2/26	0	0	0	3/6	2/25	2/20	3/14	0	0	—	3/7q	0	—	3/24	3/14	0
Green-winged Teal	3/22	3/23	—	3/23	0	0	0	0	3/17	3/28	—	0	0	3/27	3/7q	3/21	—	3/24	3/14	—
Blue-winged Teal	3/22	3/21	4/5	3/18	—	3/19	4/18	3/20h	3/23	3/27	3/14	—	4/11	—	3/11	—	3/21	3/24	3/13	0
American Wigeon	3/7	3/12	3/23	3/18	—	2/23	2/28	3/12h	3/10	2/20	3/22	0	0	3/27	3/6	—	0	—	3/13	3/23
Northern Shoveler	3/18	3/20	0	3/23	0	0	0	0	3/17	—	3/20	0	0	3/20	3/23	3/18	—	0	3/14	—
Wood Duck	3/9	3/7	2/26	3/3	—	2/23	3/21	3/25h	3/9	2/21	3/6	3/18	3/13	—	3/12	2/26	—	—	—	3/7
Redhead	3/6	3/6	0	3/8	0	0	—	3/20	3/13	2/20	0	0	2/21	—	3/5	0	0	0	0	0
Ring-necked Duck	3/5	3/20	3/21	3/10	0	3/19	3/21	3/20h	2/13	3/27	3/20	0	0	3/20	3/6q	3/7	0	3/14	3/21w	
Canvasback	3/14	3/9	0	3/8	0	0	—	3/14	2/13	0	0	—	0	3/7	3/5	0	—	3/11	3/22	3/22
Lesser Scaup	3/8	3/12	3/18	3/12	—	3/19	2/28	3/14	2/13	2/26	3/21	—	—	3/7	3/5	3/7	3/21	3/2	3/22	3/22
Common Goldeneye	3/3	2/25	2/7	—	0	2/21	—	3/14	0	2/7	3/20	—	—	3/13	—	0	—	3/2	—	—
Bufflehead	3/7	3/13	3/18	3/14	—	2/21	—	3/21	2/23	0	0	—	—	3/13	3/16	0	—	3/2	3/22	—
Oldsquaw	3/22	3/20	0	3/21	0	0	—	0	3/20	0	4/7	0	—	2/28	3/20	3/7	0	0	0	—
Ruddy Duck	3/14	3/20	4/11	3/21	0	—	—	0	2/13	4/8	—	0	3/13	0	3/23	0	0	0	3/13	0
Hooded Merganser	3/17	3/13	3/11	3/12	0	—	2/4	4/11h	3/10											

Table 1. Spring Arrival Dates, 1982

Species	Medians 10-yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Common Merganser	3/4	3/6	—	3/12	—	2/21	2/28	3/6h	3/5	—	—	—	0	3/13	3/20	—	0	—	0	0
Red-breasted Merganser	3/15	3/18	3/21	3/16	0	—	—	—	0	—	—	—	—	3/18	3/20	0	3/6	—	0	—
Broad-winged Hawk	4/15	4/17	5/1	—	4/17	—	4/11	4/12	4/19	4/8	4/10	4/13	0	0	4/25	0	0	5/1	4/17w	4/22
Northern Harrier	3/3	3/38	3/25	—	—	2/23	2/28	3/28	—	—	—	2/17	0	0	2/16	—	—	—	—	—
Osprey	3/27	3/22	4/20	—	4/17	4/9c	4/11	3/27h	3/6	4/10	3/21	3/12	3/13s	3/27	3/11	3/9	2/24	3/24	3/13	3/22
American Coot	3/17	3/19	4/13	3/20	—	0	—	3/19	3/18	0	3/20	0	0	0	3/18	0	0	0	—	—
Semipalmated Plover	5/4	5/8	0	5/12	0	5/14	5/17	0	0	2/15	3/14	—	—	—	4/29	0	0	5/8	5/1	5/1w
Killdeer	2/26	3/3	—	3/6	—	2/4	2/17	2/11h	3/10	0	0	5/8	0	0	4/10	0	0	4/25	5/1	3/4
Black-bellied Plover	5/2	4/28	0	0	0	0	0	5/1h	0	0	0	0	0	4/16	0	0	5/1	0	0	0
Upland Sandpiper	4/26	4/24	5/1	0	0	—	4/24	0	4/16	3/27	4/10	—	—	4/9	4/15	3/30	4/4	3/17	3/12	3/18
Greater Yellowlegs	3/25	3/30	4/14	—	4/23	3/24	3/28	4/30	3/28	4/4	4/17	—	—	—	4/15	4/1	4/4	3/20	3/13	4/24w
Lesser Yellowlegs	4/10	4/16	5/1	—	—	4/18	4/18	—	4/24	4/17	4/21	—	0	0	4/16	—	4/18	—	4/24w	4/24
Solitary Sandpiper	4/28	4/18	4/28	4/29	4/14	4/18	4/18	4/18h	4/14	4/13	4/21	—	—	—	4/16	4/19	—	—	—	—
Spotted Sandpiper	4/26	4/18	4/17	4/30	—	4/18	4/18	—	4/21	3/1	3/13	—	—	4/3	—	3/12	—	—	3/4	3/14
American Woodcock	2/27	3/13	—	3/18	—	—	—	4/11h	3/11											
Common Snipe	3/12	3/21	—	3/23	0	2/4	3/13	3/9	3/14	3/27	4/17	0	0	3/18	3/28	3/21	3/21	3/20	3/29	—
Short-billed Dowitcher	5/3	4/18	0	0	0	0	0	0	0	0	4/17	0	0	4/11	0	0	4/4	5/1	4/19	5/1
Semipalmated Sandpiper	5/4	5/1	0	—	0	—	5/17	0	0	0	5/1	0	0	—	5/1	0	5/1	5/8	5/1w	5/9
Least Sandpiper	4/30	4/25	0	—	0	—	4/25	—	—	0	—	0	4/11	—	4/16	4/29	—	4/25	4/25	3/14
Pectoral Sandpiper	4/8	4/10	0	0	0	3/24	—	0	—	0	4/21	—	0	0	4/16	4/4	4/4	4/25	0	—
Dunlin	4/24	4/20	0	0	0	0	—	0	0	0	0	5/8	0	0	0	0	4/4	4/10	5/1	—
Laughing Gull	4/5	4/7	0	0	0	0	4/10	4/25	0	0	—	—	4/11s	4/10	3/30	4/5	4/1	4/10	3/29	3/14
Bonaparte's Gull	3/31	4/4	—	4/4	0	0	2/21	—	0	4/11	4/10	3/29	—	4/10	3/24	4/4	4/11	—	—	—
Forster's Tern	4/25	4/10	4/24	0	0	0	0	4/25	0	0	0	0	0	0	0	0	0	4/10	3/31	3/24
Common Tern	5/1	4/15	0	0	0	0	0	0	0	0	0	0	0	0	4/15	0	—	4/25	—	4/3
Little Tern	5/4	5/1	0	0	0	0	5/15	0	0	0	0	0	0	0	0	0	0	5/1	5/1	5/1
Royal Tern	—	4/20	0	0	0	0	0	0	0	0	0	0	4/10s	4/25	0	0	5/1	4/16	4/28	3/24
Caspian Tern	4/20	4/20	0	0	0	0	4/1	4/25	0	4/18	4/17	4/4	5/1	5/1	0	0	0	5/1	0	4/20
Yellow-billed Cuckoo	5/5	5/1	5/23	5/1	5/5	5/14	5/18	—	—	5/1	5/1	5/1	5/1	—	5/1	5/1	4/29	5/1	5/1	5/1
Black-billed Cuckoo	5/8	5/13	5/15	5/7	5/15	—	—	5/17	5/10	—	0	5/1	0	0	5/12	0	0	0	0	5/23

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Species	Medians 10-yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Il/Cc	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Chuck-will's-widow	5/4	5/1	0	0	5/1	0	—	0	5/25	0	5/1	5/1	4/30s	—	5/1	5/1	5/1	5/1	4/24	5/1
Whip-poor-will	4/23	4/18	—	—	4/28	—	—	4/17	4/16	—	—	—	—	—	—	4/20	—	4/25	4/16	—
Common Nighthawk	5/7	5/7	—	5/7	5/1	5/11c	5/14	5/13	5/6	5/11	—	—	—	—	—	5/1	5/2	4/29	5/15	—
Chimney Swift	4/16	4/17	5/1	4/15	4/12	4/17	4/18	4/18	4/17	4/15	—	4/17	4/19s	4/16	4/18	4/14	4/25	4/20	4/22	—
Ruby-throated Hummingbird	4/29	5/1	—	5/1	5/1	5/17	—	5/1h	5/1	5/1	5/1	5/1	5/1	4/27	5/1	4/25	5/1	—	4/25	5/1
Belted Kingfisher	3/14	3/6	4/12	—	—	2/21	—	—	3/20	2/15	2/15	—	—	—	—	—	—	3/23	—	—
Common Flicker	3/18	3/16	4/18	—	—	2/24	3/19	3/15h	3/17	2/20	3/20	—	—	—	—	—	—	3/11	—	—
Yellow-bellied Sapsucker	3/29	3/20	0	0	—	2/16	3/25	0	3/18	3/27	0	—	0	0	3/20	—	—	0	0	0
Eastern Kingbird	4/25	4/25	4/25	4/30	—	4/29	—	4/24	4/9	4/25	4/25	—	4/28	—	4/19	4/23	—	4/25	4/22	4/22
Great Crested Flycatcher	4/30	5/1	5/1	5/1	4/29	5/1	5/1	5/1	—	5/1	5/1	5/1	5/1	—	4/30	5/1	4/29	4/25	4/24w	4/22
Eastern Phoebe	3/17	3/14	3/18	3/1	—	3/14	3/19	3/13	3/14	3/13	3/5	3/19	3/13	—	3/12q	3/18	4/18	—	3/24	3/19
Acadian Flycatcher	5/4	5/9	5/23	—	5/15	5/14	5/11	5/1h	5/1	5/7	5/1	5/1	—	—	5/1	5/1	—	5/8	5/3	5/3
Willow Flycatcher	5/20	5/17	5/29	—	5/15	5/23	5/19	5/16h	5/26	5/15	5/18	5/7	0	5/14	0	0	0	0	0	0
Least Flycatcher	5/5	5/2	5/1	—	5/2	0	5/21	5/15h	0	5/1	5/1	0	0	5/14	0	0	0	0	0	0
Eastern Pewee	5/5	5/1	5/20	5/1	5/1	5/1c	—	—	5/1	5/2	5/1	—	4/29	—	4/29	5/1	5/1	5/4	5/1w	5/1
Tree Swallow	3/29	3/23	4/2	4/14	—	4/9c	4/4	3/21	3/13	3/23/21	3/18	4/4	4/2	3/8	3/23	4/24	3/20	3/13	3/18	—
Bank Swallow	4/29	4/21	0	4/26	—	4/29	—	4/21	4/23	4/18	—	—	0	0	4/2	0	0	4/10	0	0
Rough-winged Swallow	4/14	4/11	5/1	3/25	4/2	3/21	4/13	4/17h	4/14	3/27	4/11	3/30	—	1/3	4/4	—	4/14	4/23	4/16	—
Barn Swallow	4/6	4/4	4/24	4/17	4/2	4/9c	3/29	3/21	4/5	4/10	4/11	3/22	4/15s	4/4	4/2	4/15	4/4	4/23	3/30	4/4w
Cliff Swallow	5/2	4/18	—	—	—	4/18c	4/18	4/29	4/18	—	—	—	0	4/3	0	0	0	3/28	0	0
Purple Martin	4/1	3/29	—	—	3/20	3/19	4/13	3/4	4/10	4/8	4/18	4/1	4/13s	4/2	3/27	3/24	3/22	4/10	3/13	3/24
Brown Creeper	3/23	3/22	—	—	—	—	3/28	4/5	—	4/15	3/10	3/13	—	—	3/20	—	—	3/24	3/20	—
House Wren	4/20	4/20	4/28	4/20	4/17	4/18	4/13	4/25h	4/17	4/20	4/24	—	—	—	4/27	—	—	4/25	4/15	4/14
Gray Catbird	4/25	4/25	5/1	4/29	4/27	4/29	4/25	4/25	4/19	4/18	—	—	—	—	4/23	—	4/9	4/29	4/4	4/13
Brown Thrasher	4/7	4/11	4/24	4/15	4/9	4/19	4/3	4/11h	4/10	4/11	3/21	3/30	—	—	4/14	—	4/9	4/22	—	—
American Robin	2/22	2/25	2/6	2/25	3/8	2/21	2/22	3/5h	2/22	2/11	2/20	2/22	3/3s	3/7	3/1	3/10	—	3/1	—	—
Wood Thrush	4/23	4/25	—	4/30	4/29	—	4/27	4/25	4/25	4/22	4/18	—	—	—	4/27	4/15	—	4/25	4/24	4/22
Hermite Thrush	4/12	4/14	4/23	0	—	—	4/17	4/11h	4/10	4/11	—	—	—	—	4/27	—	—	—	4/20	3/21w
Swainson's Thrush	5/4	5/8	5/19	0	5/16	—	5/1	—	—	4/25	5/14	5/1	0	0	0	—	0	5/8	—	—
Gray-checked Thrush	5/11	5/14	0	0	0	0	0	0	5/1	5/21	0	5/23	0	5/8	0	0	0	0	—	0

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Species	Medians 10-yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Veery	5/3	5/1	5/1	5/1	5/1	5/1	—	—	5/1	—	5/1	5/1	0	—	5/1	0	0	0	0	5/9
Eastern Bluebird	2/28	2/23	3/12	—	—	2/23	2/27	—	—	2/20	2/20	—	2/21	—	2/14	3/4	—	3/11	—	—
Blue-gray Gnatcatcher	4/10	4/14	4/18	4/15	4/17	4/18	4/11	4/14	4/14	4/4	4/17	4/15	4/11	4/24	4/14	4/13	4/24	4/25	4/1w	3/31
Golden-crowned Kinglet	3/25	3/26	3/25	—	—	—	3/28	—	3/27	3/28	3/21	—	0	0	—	0	—	0	3/21w	—
Ruby-crowned Kinglet	4/8	4/11	4/18	4/12	4/15	4/19	4/11	4/5	4/4	4/11	4/11	4/16	—	4/24	4/10	—	4/11	—	4/1w	4/2
Water Pipit	3/20	4/8	3/23	4/7	4/16	4/30	0	4/8h	—	—	0	—	0	0	4/10	0	4/4	0	0	3/24
White-eyed Vireo	4/20	4/17	5/1	4/29	5/1	—	4/18	4/17	4/17	4/16	4/17	4/25	4/17	—	4/19	4/16	4/15	4/25	4/15	4/13
Yellow-throated Vireo	4/30	4/29	5/1	5/1	4/29	—	5/1	4/25	4/27	5/1	4/24	5/1	5/1	—	4/27	4/24	4/14	—	4/15w	4/15
Solitary Vireo	4/24	4/20	4/19	0	—	0	4/18	4/25	4/25	4/19	4/21	—	0	—	4/27	0	—	0	0	4/20
Red-eyed Vireo	4/29	4/25	5/1	—	4/27	—	4/27	4/25	5/1	4/21	4/24	4/28	—	—	4/27	4/18	4/24	4/25	4/24	4/20
Warbling Vireo	4/30	5/1	0	4/30	5/1	4/29	5/1	5/1h	—	4/18	0	5/1	0	5/8	4/27	5/1	0	0	0	0
Black-&-white Warbler	4/21	4/18	5/1	4/30	4/18	—	4/17	4/5	4/18	—	4/7	4/17	4/3	4/25	4/19	4/30	4/20	—	4/1w	4/4
Prothonotary Warbler	4/23	4/18	0	—	—	—	0	4/29h	—	4/18	4/17	—	—	—	4/19	4/17	4/18	4/25	4/14w	4/14
Worm-eating Warbler	5/1	4/24	—	—	—	—	—	—	—	4/27	4/18	4/25	4/25	—	4/16	—	0	—	4/24	4/20
Golden-winged Warbler	5/3	5/3	5/19	5/2	5/5	0	0	0	5/1	5/5	5/1	0	5/14	5/1	0	0	0	0	0	0
Blue-winged Warbler	5/3	5/1	0	5/1	5/1	5/1	4/27	4/25h	5/1	4/27	5/1	5/1	5/1	—	4/27	5/1	5/1	5/1	—	4/24
Tennessee Warbler	5/4	5/1	0	0	5/15	5/15	5/1	4/28	5/12	4/24	5/1	5/1	0	0	4/29	0	5/1	0	0	—
Nashville Warbler	5/3	5/1	5/1	5/8	5/1	0	5/13	5/9h	0	5/1	5/5	5/1	0	0	5/1	0	5/1	0	0	0
Northern Parula Warbler	4/23	4/20	5/1	4/23	4/27	—	4/18	4/27	4/18	4/18	4/17	4/25	4/11	—	4/27	—	4/20	—	4/24	4/13
Yellow Warbler	4/25	4/25	5/1	4/26	4/30	—	4/25	4/25	4/24	4/22	4/24	4/25	4/30s	—	4/19	—	—	4/25	4/18	—
Magnolia Warbler	5/4	5/1	5/1	5/1	5/15	5/8	—	—	5/1	5/5	5/15	5/1	0	—	4/27	—	0	4/29	0	—
Cape May Warbler	5/3	5/1	5/1	5/10	5/5	5/8	5/1	5/12	5/1	5/1	5/1	5/1	0	—	5/1	5/1	5/1	0	5/2	0
Black-throated Blue Warb.	5/3	5/1	4/24	5/1	4/27	5/1c	4/27	4/23	4/30	5/1	5/1	5/1	5/1s	5/16	5/1	5/1	5/1	5/4	5/2	5/3
Yellow-rumped Warbler	4/14	4/18	4/23	4/29	4/15	4/18	4/17	4/17h	4/1	4/3	4/18	4/18	—	—	4/15	4/24	—	—	—	—
Black-throated Green War.	5/3	4/30	4/19	4/30	4/27	0	5/1	4/24	4/30	5/1	5/1	4/30	0	5/16	4/27	0	4/30	5/1	0	5/1
Cerulean Warbler	5/3	5/1	—	4/30	4/27	5/3	5/1	—	5/1	5/1	5/1	5/1	0	0	5/1	0	0	0	0	5/23
Blackburnian Warbler	5/4	5/1	5/1	5/1	5/5	5/8	5/1	0	5/1	5/1	5/9	0	0	5/16	5/1	5/1	5/10	0	0	5/23
Yellow-throated Warbler	4/16	4/18	0	4/23	4/29	4/18	4/18	4/29h	—	4/3	4/18	—	—	—	4/27	0	0	—	3/23w	3/23
Chestnut-sided Warbler	5/4	5/3	5/4	5/1	5/3	5/3	5/15	5/24	5/1	5/7	5/11	0	0	5/16	5/11	0	5/1	5/8	5/2	5/1w
Bay-breasted Warbler	5/6	5/14	5/22	0	5/16	0	—	—	5/23	0	—	5/1	0	0	5/11	0	5/13	0	—	—

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Species	Medians 10-yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Blackpoll Warbler	5/5	5/6	0	0	5/5	5/14	5/6	4/25	5/1	5/9	5/1	5/8	5/2	5/7	5/11	5/2	5/18	—	—	5/9
Pine Warbler	3/18	3/17	0	3/30	4/15	3/14c	3/28	4/12	3/17	0	4/18	3/13	3/13	—	3/28	3/15	—	3/17	3/11	3/5
Prairie Warbler	4/24	4/18	4/24	4/29	4/15	—	4/16	4/17h	4/17	4/23	4/18	4/23	4/16s	—	4/27	0	4/24	4/25	4/17	4/13
Palm Warbler	4/14	4/17	4/28	—	—	4/18	4/11	4/15	4/17	4/11	4/18	—	0	0	4/22	—	0	0	0	—
Ovenbird	4/23	4/20	4/28	—	—	—	4/18	4/25	4/25	4/22	4/18	4/24	4/25	—	4/16	4/17	4/15	4/25	4/11	4/12
Northern Waterthrush	5/1	4/22	—	4/26	—	0	4/30	—	—	4/17	—	4/18	0	—	4/29	—	—	0	0	4/14
Louisiana Waterthrush	4/7	4/10	4/19	—	4/17	—	4/11	4/5	4/10	4/8	4/10	4/25	4/25	—	4/10	4/1	4/15	4/26	4/1w	4/2
Kentucky Warbler	5/3	5/1	—	—	5/2	—	—	4/27	5/1	5/1	5/1	5/1	5/1	—	4/27	5/1	5/1	4/29	4/30	4/24
Mourning Warbler	5/21	5/16	0	0	5/16	0	5/23	5/27h	0	5/10	5/15	5/24	—	5/14	0	0	0	0	0	0
Common Yellowthroat	4/20	4/23	5/1	4/29	4/27	4/29	4/18	4/25h	4/22	4/21	4/18	4/25	4/25	—	4/16	4/17	4/18	4/23	4/14w	4/13
Yellow-breasted Chat	5/3	5/1	—	5/1	5/1	—	5/1	5/1	5/1	5/1	4/25	5/1	5/1	—	5/1	5/1	5/1	4/29	4/29	4/20
Hooded Warbler	4/30	4/30	5/1	4/30	5/5	—	4/24	5/1	5/1	4/30	4/18	4/25	—	4/24	0	5/1	5/1	5/1	4/14w	4/14
Wilson's Warbler	5/6	5/10	0	0	5/15	0	5/11	—	5/14	5/9	0	0	0	0	4/27	0	0	0	0	5/9
Canada Warbler	5/7	5/15	5/19	5/15	5/16	—	5/15	—	5/18	—	5/14	5/1	0	0	—	—	4/300	0	5/9	—
American Redstart	4/30	4/27	5/1	4/18	4/27	—	4/27	4/25	4/28	—	4/24	—	0	—	4/21	0	4/30	0	4/30	4/14
Bobolink	5/5	5/1	5/1	5/1	5/1	5/2	5/1	4/29h	5/1	4/27	5/1	5/1	5/8s	5/1	5/1	5/1	5/1	5/1	5/1	0
Red-winged Blackbird	2/21	2/20	2/25	2/11	—	2/21	—	1/30h	—	2/12	2/20	—	—	3/7	—	—	—	3/1	—	—
Orchard Oriole	5/1	4/27	0	—	—	—	—	—	4/24	—	—	—	4/30s	—	4/27	4/27	—	4/22	—	—
Northern Oriole	4/29	4/27	—	4/27	4/29	—	—	—	—	—	—	—	—	—	4/27	4/16	—	—	5/1w	—
Rusty Blackbird	3/9	3/24	—	3/4	—	—	3/28	4/11h	0	2/16	—	3/13	2/20	0	4/10	0	—	0	4/1w	3/24
Common Grackle	2/20	2/28	—	2/23	2/27	2/17	—	—	—	2/16	2/28	—	—	3/7	—	—	—	3/1	—	—
Brown-headed Cowbird	2/27	3/4	—	3/30	—	2/23	2/27	—	—	2/20	3/19	—	3/9	3/7	—	—	—	3/1	—	—
Scarlet Tanager	4/30	4/29	5/1	5/1	4/29	5/8	—	—	5/1	4/25	4/24	—	5/1s	—	4/27	4/27	—	4/29	4/30	4/22
Summer Tanager	5/4	5/1	0	0	0	5/8	0	0	5/22	0	5/1	5/1	5/1s	—	5/11	4/17	5/1	4/25	5/1	4/27
Rose-breasted Grosbeak	5/3	5/1	5/1	0	5/1	5/1c	4/20	5/1	4/25	5/1	5/1	4/28	0	0	0	4/15	—	0	0	0
Blue Grosbeak	5/4	5/1	0	5/4	—	—	4/20	5/1	—	—	5/1	4/27	5/1	—	4/27	5/1	5/1	5/1	5/1	4/24
Indigo Bunting	5/2	5/1	5/3	4/25	5/1	5/1	5/1	4/17	5/1	5/1	4/25	5/1	5/1	5/1	5/1	5/1	5/1	5/4	5/1	4/24
Purple Finch	—	4/20	—	—	—	4/19	4/22	4/25h	—	4/13	4/24	—	—	—	4/23	4/19	4/18	—	—	—
Rufous-sided Towhee	3/24	3/23	3/23	3/30	4/1	3/13	3/13	—	3/18	3/28	—	—	—	—	—	—	—	3/8	—	3/23
Savannah Sparrow	3/26	4/9	5/1	4/13	—	3/21	3/28	4/9h	4/29	3/28	4/18	—	3/14	—	4/19	—	—	3/22	—	—
Grasshopper Sparrow	5/3	4/22	—	—	—	—	4/24	—	4/21	—	4/18	—	0	3/13	4/27	—	0	—	4/27	0
Vesper Sparrow	4/5	4/11	4/24	3/26	—	4/18	4/24	4/4	—	3/19	4/7	0	0	0	4/16	0	0	0	0	0
Chipping Sparrow	4/3	4/4	4/6	3/23	—	4/18	4/17	4/12	3/26	4/13	—	3/24	3/20	—	4/2	3/20	4/14	4/25	4/1	—
Fox Sparrow	2/28	3/10	3/16	3/12	—	3/12	2/15	—	2/18	1/22	3/8	3/12	0	3/13	0	2/13	0	0	0	0
Lincoln's Sparrow	5/11	5/10	0	5/4	0	0	0	0	5/12	5/5	0	5/21	0	0	0	0	0	0	0	0

Loons, Grebes. Walter Ellison reported 50 Common Loons and 10 Red-throated loons off Taylors Island, Dorchester Co. on Apr. 16, and 17 Red-throats off Assateague on Apr. 21. The only other large number of Common Loons noted was 38 near Bellevue on Apr. 24 (Armistead). On Apr. 4 there were 7 Common Loons on the Potomac River at Seneca (James LaFollette), and late migrants were seen on May 26, 1 flying over Ramona's Beach, Baltimore Co. (Ringler, Wilkinson), and May 29, 2 at Bloodsworth Island (Armistead, Mignogno). Other Red-throated Loons reported were 1 on Triadelphia Reservoir, Apr. 5-27 (M. Wallace), 1 at Bozman, Talbot Co. on Apr. 8 (H.J. Janosik), and 5 at North Beach, Calvert Co. on Apr. 9 (Kraus). Single Red-necked Grebes were reported from Hains Pt., DC on Mar. 20 (Czaplak) and Apr. 6-10 (Hayes), at North Beach, Mar. 20-28 (Kraus), and at Widewater on the Potomac on Mar. 23 (Lilian Spangler). The only Horned Grebe concentrations were 300 at Rumbly Pt. in Somerset County near Irish Grove Sanctuary on Mar. 19 (Stasz) and 185 near Bellevue on Apr. 24 (Armistead).

Pelagics, Pelican, Cormorants. A very late Northern Fulmar was seen off Ocean City on May 29 (Naveen). There were 3 Cory's Shearwaters also seen that day. Sooty Shearwaters numbered 14 on Apr. 24, 26 on May 1, and 34 on May 29 while 1 Manx Shearwater was found on the May 1 trip. There were 52 Wilson's Storm Petrels counted on May 1 and 964 on May 29. A White Pelican was seen in the Swan Island area of Smith Island on May 21-23 by Robin Tyler. The pelagic trips also produced 69 Northern Gannets on Apr. 24, 91 on May 1, and 2 on May 29. The largest concentration of migrating Double-crested Cormorants was 1,500 at Ocean City on Apr. 24 (Reese). Other cormorants of note were one on the Potomac in Montgomery County on May 7 (Bonham), one flying over Madonna in northwestern Harford County on May 9 (Kirkwood), and 60 lingering at Bloodsworth Island on May 29 (Armistead, Mignogno). These latter birds probably summered in the bay region.

Herons. There were 12 Great Blue Herons migrating over Deal Island Wildlife Management Area (WMA) on Mar. 13 (Mignogno). John Gregoire estimated 70 Great Blue Heron nests at a heronry along the Patuxent River on Mar. 17 and discovered another heronry with 15 nests on Swanson's Creek on May 1. An adult Little Blue Heron was at Elkton on Apr. 25 (Ringler, Wilkinson), another at Fort Smallwood the same day and one more at the latter location on May 19 (Wierenga). There were 8 Cattle Egrets at Williston in Caroline County on May 1 (Scudder). An early Great Egret was at Fairmount WMA, Somerset Co. on Mar. 13 (Armistead). Another was at Seneca on Apr. 13 (White), and in Washington County there was one at Big Pool on May 22 (Doyle) and another at Blair's Valley on the 23rd (Boone +). An early Louisiana Heron was at Deal Island WMA on Mar. 14 (Armistead, Stasz) and a wandering bird passed Fort Smallwood on May 19 (Wierenga). A Least Bittern was at Hughes Hollow near Seneca on May 15 (Ringler +). Among the American Bitterns reported were one at Lilypons in Frederick County on Mar. 19 (Don and Mieke Mehlman), one at Hughes Hollow, Apr 8-13 (White), one that lingered at Newark Farms, Harford Co., May 3-16 (Kirkwood), and one at Irish Grove on May 15 (Stasz) where the potential for breeding exists.

Glossy Ibis. This species has become a widespread wanderer in the spring, and this year was no exception as birds were sighted in many parts of the state where they do not nest. The earliest reports were at Deal Island on Mar. 13 (Wierenga,

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Species	Medians 10—yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Common Loon	5/9	5/29	—	—	5/29	6/6c	5/26	—	5/22	5/7	—	5/8	—	—	5/12	0	6/12	5/29	6/1	6/12
Horned Grebe	5/4	5/1	4/12	3/28	0	0	4/16	0	4/7	6/5	5/1	5/1	5/1	5/1	—	0	4/24	4/25	5/8	5/1
Pied-billed Grebe	5/4	4/10	4/13	4/5	—	4/18c	5/4	—	4/9	3/28	0	5/1	4/11	3/23	4/10	0	—	—	—	4/3
Double-crested Cormorant	5/20	6/1	0	0	0	0	6/1	5/9h	—	5/7	0	—	—	5/31	—	0	—	6/5	—	6/13
American Bittern	5/8	5/1	4/24	0	5/1	0	0	5/16h	4/13	5/5	5/1	5/1	0	5/15	5/1	0	0	5/1	5/15	0
Whistling Swan	4/26	3/31	0	3/27	0	4/9c	3/18	4/4	4/13	4/4	0	3/18	3/13	3/1	5/1	4/22	—	3/17	3/23	3/21w
Canada Goose	5/6	4/25	5/1	—	—	—	4/24	4/26	4/6	—	—	—	—	—	5/11	—	—	4/23	—	—
Snow Goose	4/9	3/28	0	0	0	0	0	—	0	0	3/28	0	0	0	4/2q	—	3/6	—	0	—
Gadwall	5/3	5/1	—	5/12	0	0	4/17	0	4/14	0	5/1	3/27	0	5/23	4/10q	0	0	5/8	5/1	0
Common Pintail	4/4	3/30	0	—	0	0	0	3/20h	3/30	4/4	3/14	0	0	4/9	5/1	0	4/18	3/24	3/14	0
Green-winged Teal	4/28	5/1	4/18	4/8	0	0	0	0	5/1	3/28	5/1	0	0	5/16	5/1	5/1	5/1	5/8	5/1	5/1
Blue-winged Teal	5/3	5/1	5/1	5/4	5/1	5/5	4/24	5/1	4/20	5/2	5/1	5/8	0	5/1	5/1	5/1	5/1	—	—	0
American Wigeon	4/18	4/15	4/13	4/4	4/4	4/9c	—	4/15h	4/20	4/11	4/25	0	0	3/27	5/3	4/16	0	5/1	5/1	3/23
Northern Shoveler	4/13	4/9	0	3/28	0	0	0	0	4/10	4/8	4/25	0	0	3/20	5/1	3/21	5/17	0	5/1	4/3
Redhead	3/31	3/22	0	0	0	0	3/21	3/20	3/23	2/26	0	0	—	4/11	5/1	0	0	0	0	0
Ring-necked Duck	4/14	4/16	3/21	5/1	0	5/1c	2/21	4/17h	4/19	5/1	5/9	0	0	4/11	4/16	4/4	0	0	4/4w	3/23
Canvasback	4/15	3/28	0	3/12	0	0	3/28	3/14	3/28	0	0	3/27	0	4/11	5/1	0	4/10	4/10	4/21	3/24
Greater Scaup	4/8	3/31	0	4/2	0	3/24	3/28	3/27	0	0	0	—	—	4/11	5/1	0	0	0	0	—
Lesser Scaup	4/26	5/1	5/1	5/31	5/1	4/18c	5/9	4/18h	4/23	3/27	5/1	5/1	5/1	4/11	5/1	4/11	4/9	6/5	5/1w	5/1
Common Goldeneye	4/24	3/22	—	3/18	0	—	3/11	3/14	0	—	0	5/1	—	4/11	5/1	0	4/10	3/2	3/22	—
Bufflehead	5/2	5/1	4/10	3/28	5/1	—	3/28	5/1	5/12	4/24	5/1	5/1	—	5/1	5/1	0	4/24	5/1	4/25	5/1
Oldsquaw	4/11	3/27	0	3/26	0	0	3/29	0	3/20	0	0	3/27	—	4/11	3/24	0	4/24	0	0	3/24
White-winged Scoter	4/24	4/28	0	3/20	0	0	0	0	0	0	0	0	—	2/28	5/8	0	5/1	4/25	5/1	—
Surf Scoter	4/24	—	0	0	0	0	0	0	0	0	0	0	—	2/28	0	0	0	5/8	5/29	—
Black Scoter	4/26	—	0	0	0	0	0	0	0	0	0	0	—	3/13	0	0	0	4/16	0	5/22
Ruddy Duck	5/4	5/1	4/13	5/1	0	4/18c	5/19	0	3/20	0	4/7	0	5/1	—	5/1	5/1	0	0	5/28	0
Hooded Merganser	4/18	4/25	4/14	3/28	0	5/1	4/25	4/18h	4/27	5/1	4/11	0	5/1	0	3/23	0	0	0	3/13	0
Common Merganser	4/7	4/9	4/19	3/12	5/1	3/21	3/30	5/1h	3/23	4/18	5/1	5/1	0	3/13	5/1	3/21	0	3/23	0	0
Red-breasted Merganser	5/4	4/29	5/1	3/28	0	4/9c	5/10	4/29	0	3/27	4/25	5/1	5/1	—	4/10	0	4/9	5/8	0	5/17
Rough-legged Hawk	4/7	4/3	0	0	0	3/24	2/21	0	0	2/4	4/19	0	0	0	3/19	5/1	0	5/1	4/13	—

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Species	Medians 10—yr. 1982		Garr.	Alle.	Wash.	Fr/Ca	Balt.	Ha/Ce	Howd.	Mont.	PrGeo	AnnAr	Char.	Calv.	Kent	Caro.	Talb.	Dorc.	Some.	Worc.
Northern Harrier	5/4	5/7	—	5/1	5/1	4/28	5/26	5/16h	5/1	5/16	5/30	5/20	—	—	5/12	5/1	5/1	—	—	—
American Coot	5/4	5/1	5/1	3/20	5/1	0	5/1	3/19	4/27	0	3/20	0	0	0	5/1	0	0	0	—	5/1 *
Semipalmated Plover	5/27	5/30	0	5/31	0	5/23	8/6	0	0	0	0	0	0	0	5/12	0	0	5/29	5/31	—
Black-bellied Plover	5/23	5/29	0	0	0	0	0	—	0	0	0	5/8	0	0	5/1	0	0	6/5	5/29	6/12
Greater Yellowlegs	5/11	5/8	—	—	—	5/23	5/25	—	—	5/7	5/2	—	—	—	—	—	—	5/8	—	5/9
Lesser Yellowlegs	5/9	5/13	5/14	5/4	—	5/23	5/14	—	5/11	—	5/9	5/8	—	—	—	—	—	5/8	5/30	5/17
Solitary Sandpiper	5/14	5/17	5/14	5/17	5/23	5/26	5/25	5/19	5/15	5/9	5/1	5/1	0	0	—	5/1	5/23	5/24	5/25	5/2w
Spotted Sandpiper	5/24	5/30	5/30	5/31	5/23	5/30	5/25	5/16	5/31	5/7	5/9	—	—	5/31	—	—	—	5/29	5/30	—
Ruddy Turnstone	6/1	5/29	0	0	0	0	5/24	0	0	0	0	—	0	5/22	0	0	0	6/5	5/29	6/12
Common Snipe	5/5	5/1	5/1	4/12	0	5/1	4/25	5/1h	4/30	4/23	5/1	0	0	—	5/1	5/1	5/1	5/8	—	4/24w
Short-billed Dowitcher	5/23	6/5	0	0	0	0	0	0	0	0	—	0	0	—	0	0	—	6/5	6/1	6/12
Sanderling	5/10	6/5	0	0	0	0	0	0	0	0	0	0	0	5/22	0	0	0	6/5	0	6/12
Semipalmated Sandpiper	5/27	6/5	0	5/31	0	5/23	6/9	0	0	0	—	0	0	5/22	—	0	—	6/5	6/13	6/12
Least Sandpiper	5/17	5/18	0	5/12	0	5/26	5/25	5/16h	5/19	0	—	0	—	5/16	5/1	5/1	5/23	6/5	—	—
White-rumped Sandpiper	5/20	6/8	0	0	0	0	6/6	0	0	0	0	0	0	0	0	0	0	6/10	5/30	6/13
Pectoral Sandpiper	5/6	5/1	0	0	0	5/1	5/1	0	5/12	0	5/1	5/1	0	0	5/1	—	—	5/8	0	5/17
Dunlin	5/25	5/31	0	0	0	0	5/25	0	0	0	0	—	0	0	0	0	5/23	6/5	—	6/12
Bonaparte's Gull	5/3	5/1	5/1	4/4	0	0	5/1	5/1h	0	4/12	5/1	5/1	5/1	4/10	5/1	4/12	4/11	5/1	5/2	5/1
Short-eared Owl	4/11	3/19	0	0	0	3/19	2/28	0	0	2/12	0	0	0	3/27	0	0	0	3/24	5/1	2/26
Yellow-bellied Sapsucker	5/2	5/1	0	0	5/1	—	4/15	0	5/2	4/4	0	5/1	0	0	4/22	5/1	5/1	0	0	0
Red-breasted Nuthatch	5/5	5/1	5/14	5/1	5/1	5/1	5/1	5/14	5/11	5/15	5/1	5/1	5/1	—	5/1	5/1	5/1	5/4	5/2	5/1
Brown Creeper	4/26	4/18	5/1	5/1	5/1	3/20	4/18	4/5	4/18	4/15	4/8	5/1	—	—	—	—	5/1	3/24	—	—
Winter Wren	4/22	4/27	4/28	0	4/27	0	0	4/4	4/18	5/10	4/30	5/1	0	0	0	0	0	0	4/15	4/15
Hermit Thrush	5/5	5/1	—	0	5/1	0	5/1	5/1	5/1	5/5	5/1	5/1s	5/1	5/11	5/20	—	—	5/1w	5/1	—
Swainson's Thrush	5/25	5/25	5/19	0	5/16	—	5/29	—	5/28	5/29	5/23	5/24	0	0	0	5/26	0	—	5/31	5/23
Gray-cheeked Thrush	5/23	5/25	0	0	0	0	0	—	5/25	0	5/23	0	—	0	0	0	0	5/29	0	—
Veery	5/19	5/25	—	—	—	—	5/25	5/22h	5/25	5/28	—	5/22	0	6/4	—	0	0	0	0	—
Golden-crowned Kinglet	4/15	4/7	—	—	—	—	4/13	4/28	—	—	3/21	—	0	0	4/10	0	4/4	0	3/21w	—
Ruby-crowned Kinglet	5/6	5/8	5/9	—	5/15	5/3	—	—	5/4	5/7	5/5	5/11	—	—	—	—	—	5/8	—	—
Water Pipit	5/3	5/4	—	5/4	4/25	5/5	0	5/1	5/6	5/1	0	5/8	0	0	5/11	0	5/2	0	0	—
Cedar Waxwing	5/27	5/18	—	—	5/23	5/23	5/23	5/16h	5/15	5/15	—	—	—	—	—	—	5/18	—	—	—
Solitary Vireo	5/5	5/3	—	0	5/15	0	5/4	5/4	5/1	5/9	—	5/1	0	5/1	5/11	0	5/1	0	5/1w	—
Golden-winged Warbler	5/8	5/11	—	—	—	0	0	0	0	5/11	5/5	—	0	5/14	—	0	0	0	0	0
Blue-winged Warbler	5/10	5/14	0	—	5/16	5/10	—	—	5/15	5/28	—	—	—	5/14	5/12	—	—	5/8	—	—
Tennessee Warbler	5/21	5/23	0	0	5/23	5/15	5/25	—	5/15	5/15	5/24	—	0	0	—	0	—	0	0	5/23

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Nashville Warbler	5/12	5/20	5/20	5/11	5/23	0	5/25	—	0	5/13	—	—	0	0	5/20	0	—	0	0	0
Magnolia Warbler	5/22	5/23	—	—	5/23	—	5/25	5/26h	5/19	5/26	—	5/23	0	5/23	5/20	5/24	0	—	0	5/23
Cape May Warbler	5/15	5/15	—	—	5/16	—	5/18	5/26	5/25	—	5/14	—	0	5/14	5/12	—	5/13	0	—	0
Black-throated Blue Warb.	5/16	5/16	—	—	5/16	—	5/26	5/11	5/29	5/22	5/16	5/8	—	5/16	5/12	—	—	—	—	5/15
Yellow-rumped Warbler	5/15	5/14	5/13	5/4	5/16	5/22	5/16	5/16h	5/15	5/15	5/15	5/15	—	5/3	5/12	5/1	—	5/8	5/3	5/11
Black-throated Green Warb.	5/14	5/16	—	—	5/23	0	5/25	5/22	5/13	5/15	5/16	—	0	5/16	5/12	0	—	5/8	0	5/16
Blackburnian Warbler	5/16	5/18	5/23	5/11	5/22	—	5/19	0	5/12	—	5/9	0	0	5/16	5/25	—	5/10	0	0	5/23
Chestnut-sided Warbler	5/18	5/20	5/20	—	5/16	—	5/25	5/24	5/31	5/20	5/11	0	0	5/16	5/20	0	—	5/8	—	—
Bay-breasted Warbler	5/21	5/24	5/29	0	5/23	0	5/25	5/22	5/25	0	6/9	5/24	0	0	5/12	0	5/13	0	5/26	5/23
Blackpoll Warbler	5/30	5/24	0	0	5/23	5/23	6/1	5/24	5/28	5/24	5/31	5/24	5/31	5/23	5/24	—	5/18	5/29	5/26	5/25
Palm Warbler	5/4	5/1	5/1	5/1	5/1	4/18	5/12	4/17h	5/1	4/17	5/1	5/1	0	0	5/3	4/27	0	0	0	4/22
Northern Waterthrush	5/22	5/22	—	—	5/23	0	5/23	5/22	5/16	5/28	5/30	5/24	0	5/14	5/12	5/6	—	0	0	—
Mourning Warbler	5/30	5/27	0	0	—	0	5/23	5/27h	0	5/27	—	5/24	5/31	—	0	0	0	0	0	0
Wilson's Warbler	5/21	5/21	0	0	5/23	0	5/26	5/21h	5/20	5/20	0	0	0	0	5/12	0	0	0	0	5/23
Canada Warbler	5/26	5/24	—	5/15	5/23	5/23	5/26	5/22	5/20	5/29	5/30	5/24	0	0	5/25	5/26	—	0	0	5/23
American Redstart	5/29	5/29	—	—	—	5/30	6/9	5/27h	5/25	5/29	5/29	5/24	0	5/31	5/20	0	6/7	0	6/2	—
Bobolink	5/16	5/15	—	5/16	—	5/15	5/9	5/20h	5/21	5/15	5/9	5/20	5/9s	—	5/11	—	5/12	5/8	5/31	0
Rusty Blackbird	5/5	5/1	5/1	5/1	5/5	4/18	5/4	4/25	0	5/2	5/1	5/1	—	0	5/1	0	5/1	0	4/27	4/1w
Rose-breasted Grosbeak	5/19	5/29	—	0	5/16	—	5/25	5/16h	5/31	5/15	5/29	5/31	0	0	0	5/31	6/7	0	0	0
Evening Grosbeak	5/5	5/5	5/14	5/1	5/16	5/11	5/8	5/1	5/7	5/1	5/24	5/5	5/1	2/15	5/1q	5/1	5/12	0	5/15	5/1w
Purple Finch	5/5	5/11	—	5/4	5/15	5/15	5/11	5/10h	5/12	5/6	5/11	5/8	5/31	—	5/1	4/19	—	—	—	—
Common Redpoll	3/16	4/9	4/15	5/1	4/10	2/20	4/10	4/8h	3/9	0	0	0	0	0	0	0	0	0	1/31w	0
Pine Siskin	5/7	5/2	5/16	5/1	5/22	5/3	5/23	5/1h	5/11	5/7	5/20	5/1	6/5	—	5/1	4/23	5/1	0	4/21	5/1w
White-winged Crossbill	2/20	2/27	4/7	0	0	0	2/27	2/13	0	4/26	2/14	0	0	0	0	0	0	0	0	0
Savannah Sparrow	5/8	5/6	—	5/4	—	5/5	5/13	—	5/5	5/7	—	—	—	—	—	—	—	5/8	—	—
Northern Junco	5/3	5/1	5/1	4/15	5/1	4/29	5/5	4/30	5/10	5/12	4/30	5/1	—	—	5/1	5/3	5/1	—	4/16	4/20
American Tree Sparrow	3/24	3/16	4/10	—	3/13	3/30	2/27	4/11h	3/13	4/11	—	—	0	3/13	3/19	0	0	0	3/13	0
White-crowned Sparrow	5/8	5/12	5/12	5/12	5/15	5/5	0	5/13	5/23	5/14	5/15	5/11	0	0	5/3	5/7	—	0	0	0
White-throated Sparrow	5/13	5/12	5/18	5/12	6/4	5/10	5/11	5/16h	5/13	5/31	5/6	5/15	5/1s	—	5/12	5/11	—	5/8	5/1	—
Fox Sparrow	4/6	3/27	3/27	3/12	3/26	3/17	4/15	4/12	4/9	4/4	3/13	3/27	0	3/13	0	5/1	0	0	0	0
Lincoln's Sparrow	5/24	5/17	0	5/12	0	0	0	0	5/12	5/25	0	5/21	0	0	0	0	0	0	0	0
Swamp Sparrow	5/9	5/12	—	5/12	5/1	5/22	5/11	5/16h	5/12	5/21	—	5/16	—	—	5/1	5/1	—	5/8	—	5/9

Mignogno), 6 at Salisbury on Mar. 17 (Dyke), at Clinton, Prince Georges Co. on Mar. 21 (Lyon), and at Bozman on Mar. 26 (Reese +). One was at Fort McHenry on Apr. 16 and again on May 29 (Bielenberg). There were about 25 at Greensboro on Apr. 17 (Hewitt), 8 at Patuxent River Park on Apr. 21 (Gregoire), 1 at Sycamore Landing on Apr. 23 (White), 1 at Jug Bay on Apr. 24 (Hammer), 3 at Williamsport on Apr. 28 (Keedy), and 5 soaring upward on a thermal air current near Fair Hill, Cecil Co. on May 7 (Ringler, Bielenberg).

Swans, Geese. Single Mute Swans appeared in unusual locations: at Deal Island WMA on Mar. 21 (Ringler, Dixon) and at Greensboro on May 1 (Fletchers). There were approximately 2,000 Whistling Swans in a field in Dorchester County south of Federalsburg on Mar. 7 (Ringler) and Mark Wallace counted 389 in Howard County on Mar. 11. Alice Holland noted about 150 flying over Violet's Lock, Montgomery Co. on Mar. 9. Canada Geese continue to spread their nesting activities in the state. Dan Boone found a pair in the beaver dams near Kempton on Apr. 28 and a free-flying bird near Rock Lodge on May 13 both in Garrett County. Haven Kolb saw a pair with at least 4 downy young on Grave Run in northwestern Baltimore County on May 13, and on the C&O Canal at Carderock there was a pair with 6 downy young and another pair with 5 downy young on May 15 (Ringler +). The high count of Canada Geese in Howard County was 2,090 on Mar. 1 (M. Wallace). The 5 Brant flying north past North Beach, Calvert Co., on Mar. 20 (Kraus) were rare for the bay. There was a "Blue" Goose in Howard County on Mar. 11 (M. Wallace) and a Snow Goose in Montgomery County on Mar. 28 (Bonham). Rittenhouse estimated 10,000 Snow Geese in Queen Annes County near Tuckahoe State Park on Apr. 2 and a late bird was at Blackwater on May 1 (Armistead).

Ducks. Armistead and Stasz made an estimate of the ducks in the impoundments at Deal Island WMA on Mar. 14. They tallied 16 Mallards, 210 Black Ducks, 530 Gadwalls, 35 Common Pintails, 60 Green-winged Teal, 24 Blue-winged Teal, 440 American Wigeon, 35 Northern Shovelers, 1 Ring-necked Duck, and 7 Hooded Mergansers. Dan Boone found 2 pairs of Black Ducks on May 14 at Wolf Swamp, Garrett Co., where they could be rare breeders. Two Gadwall at North Branch, Allegany Co. on May 12 (Ludwig) were very late migrants. The 600 pintails estimated by the Talbot County Bird Club on Apr. 18 in their region was the most reported this spring. There were approximately 20 Green-winged Teal on the Potomac at North Branch on Apr. 8 (Simons) and 16 Blue-winged Teal on Broadford Reservoir in Garrett County on Apr. 5 (Skipper). A drake Eurasian Wigeon spent the period Mar. 13-Apr. 14 in the impoundments at Deal Island WMA (Mignogno +). Mark Wallace counted 121 American Wigeon in Howard County on Mar. 18. A Northern Shoveler was on the Choptank River near Cambridge on May 17 (Meritt). Interesting counts of Ring-necked Ducks were 60 at Wye Mills on Mar. 6, 40 at Denton on Mar. 7 and 21 (Ringler), and 21 at Lilypons on Mar. 21-24 (D. Wallace). A very late drake Ring-neck was at the Piscataway sewage ponds on May 9 (Nistico). There were 400 Canvasbacks in the Elliott Island area on Apr. 10 (Armistead). Dave Wallace identified 5 Greater Scaup at Lilypons on Mar. 21-24. High counts of Lesser Scaup were 75 at Beltsville on Apr. 7 (Ringler) and 104 in Red Run Cove of Deep Creek Lake on Apr. 11 (Skipper). A single female Lesser Scaup was at Bloodsworth Island on May 29 (Armistead, Mignogno) and another was at North Branch on the 31st (Ringler +). Near Bellevue on Apr. 9 Armistead estimated 150 Buffleheads and 300 Oldsquaws.

Other Oldsquaws were on Triadelphia Reservoir on Mar. 20 (M. Wallace), 7 on Rocky Gap Lake on Mar. 26 (Twigg), 6 on the Potomac River at the Woodrow Wilson Bridge on Apr. 5 (Henry Bielstein), and one on the Potomac at the 14th Street Bridge on Apr. 15 (Hayes). A second-year male Common Eider was seen by many people at the jetty in Ocean City from at least Mar. 6 through May 1. A female White-winged Scoter was on Georgetown Reservoir on Apr. 9 (Hayes) and a drake Surf Scoter was at Smith Island on May 29 (Armistead, Mignogno). Black Scoters made a moderately good appearance with 100 at Taylors Island on Apr. 16 (Ellison), 2 at Goose Island in the District on Apr. 26 (Hayes), and 53 at Ocean City on May 22 (Dave Abbott). There were 17 Hooded Mergansers at Fairmount WMA on Mar. 13 (Armistead), 25 (all females) at the Oakland Flood Control Dam on Apr. 14 (Skipper), and a crippled female at Round Hammock, Smith Island on May 31 (Armistead +). There were 16 Common Mergansers on the Tuckahoe River near Covey's Landing in Caroline County on Mar. 21 (Dixon, Ringler).

Diurnal Raptors. The first Turkey Vulture seen in Garrett County this spring was at Savage River Dam on Mar. 9 (Thayer) and the first Black Vulture of the spring in Allegany County was seen on Mar. 23 (Paulus). Jim Stasz noted a territorial pair of Cooper's Hawks from Apr. 1 through the end of the period in the Nassawango Creek area where they could be nesting. Rough-legged Hawks were noted in southern Frederick County on Mar. 24 (D. Wallace), 5 in the Elliott Island area on Apr. 5 (Wierenga), at Deal Island WMA on Apr. 19 (Wierenga), and late birds on May 1 at Denton (Fletchers) and Blackwater (Armistead +). Golden Eagles were found on the upper Patuxent River on Mar. 17 (Gregoire) and in Kent County on Apr. 2 (Parks). One adult was seen at Blackwater at least through Mar. 28 (White +). Late migrant Northern Harriers were at Summit Hall Turf Farm on May 16 (Wilson), at Newark Farms the same day (Kirkwood, Ringler), at Ramona's Beach on May 26 (Ringler, Wilkinson), and at Laurel on May 30 (Robbins). There were 7 Ospreys at Lilypons on Apr. 18 (D. Wallace) and one lingered there to May 30 (Wilson). Sightings of released Peregrine Falcons have increased with each year and it is difficult to pick out other birds, but an apparent migrant was seen over Beltsville on May 5 (Hayes). Wierenga and Mignogno counted 19 migrating American Kestrels at Assateague on Mar. 14, 14 at Deal Island on Mar. 23, and 109 at Ocean City on Apr. 4. Wierenga's totals for the hawk watch at Fort Smallwood are in Table 3.

Turkey, Crane. Dan Boone flushed a Wild Turkey from a nest along the Potomac River south of Williamsport on May 4. Dennis Kirkwood discovered a Sandhill Crane on Newark Farms along Little Deer Creek in Harford County on Apr. 11. The bird was seen and photographed by other observers on that day and the next. Local residents claim to have seen it as early as the 8th or 9th but none recognized it as a rare bird.

Rails, Gallinules and Coots. Wierenga heard a migrant King Rail flying over his house in Annapolis on Apr. 12. Ben Yokel found a King Rail at Hughes Hollow on May 19. Armistead counted 19 Clapper Rails and 8 Virginia Rails at Fairmount WMA on Mar. 13 and Stasz found 6 Virginias at Irish Grove on the 12th. Stasz also heard a Sora at Irish Grove on Mar. 8, probably a wintering bird. The first Black Rail of the season was heard at Irish Grove on Apr. 19 with 2 there on the 20th (Stasz). Others were 2 at Deal Island WMA on Apr. 29 (Mignogno), 12 in the Elliott

Table 3. Migrant Raptors at Fort Small wood Park, Anne Arundel County, Spring 1982

Species	Total	First	Last	Highest Counts
Turkey Vulture	262	3/11	5/20	33 on Mar. 18, 26 on Apr. 1 and 13
Black Vulture		3/18	5/20	5 on Mar. 18, 2 on May 20
Sharp-shinned Hawk	702	3/18	5/20	176 on Apr. 17, 108 on Apr. 13, 94 on May 9, 92 on May 10.
Cooper's Hawk	94	3/28	5/20	39 on Apr. 17, 16 on Apr. 13.
Red-tailed Hawk	63	3/18	5/20	22 on Apr. 13, 9 on Apr. 17, 8 on Mar. 30
Broad-winged Hawk	147	4/13	5/20	46 on Apr. 13, 38 on May 20
Bald Eagle	2	4/17		1 adult and 1 immature on Apr. 17
Northern Harrier	52	3/18	5/20	12 on Apr. 13, 10 on May 9
Osprey	123	3/12	5/20	37 on Apr. 17, 18 on Apr. 13
Merlin	6	4/13	5/5	3 on Apr. 13
American Kestrel	2/73	3/11	5/7	81 on Apr. 1, 56 on Apr. 13, 39 on Apr. 17.
Unidentified	16			
Total	1,802	3/11	5/20	

Coverage—77 hours on 27 days, 2.9 hours/day, 1.2 observers/day.

Birds—67 hawks/day, 23.4 hawks/hour.

Observers—Hal Wierenga, Jim Orgain, Rick Blom, Wayne Klockner, Barry Cooper, Dan Eberly.

Island marshes on May 7 (Ringler +), one in Black Marsh in Baltimore County on May 25 with 2 there on the 26th (Ringler +), and one at Sandy Point on May 28 (Wierenga). A Common Gallinule was seen at Hughes Hollow from at least Apr. 24 (Hayes) through May 19 (Yokel). Two Common Gallinules were at Goose Island in the District from Apr. 26 through the end of the period (Hayes). Mignogno estimated the numbers of American Coots at Deal Island WMA to be 200 on Mar. 21 and 29, and 150 on Apr. 14.

Shorebirds. There were 2 American Oystercatchers at Ocean City on Mar. 6 where they may have wintered (Ringler). Another was at Rumbly Point on Apr. 11 (Stasz, Ludwig), one at Hooper Island on Apr. 25 (Armistead), and one at Newcomb, Talbot Co. on May 25 (M. Levee). High counts of Semipalmated Plovers were 9 at Lilypons on May 15 (D. Wallace), 20 at Back River on May 25 (Ringler), and 250 at Irish Grove on May 29 (Stasz). The only Wilson's Plovers reported were 3 on Assateague on May 11 (Roger Eastman). The 5 Piping Plovers on Assateague on Mar. 14 (Wierenga, Mignogno) may have been early migrants. Two Black-bellied Plovers were at Eastern Neck on Apr. 10 (Ringler +), one at Worton on Apr. 29 with 3 there on May 1 (Parks), one at Goose Island on May 12 (Hayes), 150 at Irish Grove on May 20 (Stasz), 2 at Holland Island on May 29 (Armistead, Mignogno), and one at Hains Point on the same day (Hayes). Early Whimbrels were 9 at Assateague on Apr. 21 (Ellison) and 9 seen on the Apr. 24 boat trip off Ocean City (Naveen +). Others were at Fort McHenry on May 23 (Bielenberg), Irish Grove on May 27 (Stasz), Bloodsworth Island on May 29 and South Marsh Island the same day (Armistead, Mignogno), and heard flying over Tylerton on the night of May 31 (Wierenga). An Upland Sandpiper was at Sunderland on Apr. 16 (Kraus), another at the Cissel sod farm in Howard County from Apr. 16 to May 3 (M. Wallace +), and 14 in the Belfast Valley of northern Baltimore County on Apr. 24 (Hank Kaestner +). There were 4 Willets in the Elliott Island marshes on Apr. 10

(Armistead) and 1 at Tilghman Island on May 23 (Reese). Early Spotted Sandpipers were at Seneca on Apr. 13 (White) and on the Youghiogheny River on the 17th (Thayer). There were 3 Ruddy Turnstones at Fort McHenry on May 24 (Bielenberg) and 15 at South Marsh Island on the 29th (Armistead, Mignogno). The only Wilson's Phalarope found this spring was at Lilypons on May 22 (Paul DuMont). Pelagic birders saw 4 Northern Phalaropes on the May 29 boat trip and 4 Red Phalaropes on the May 1 trip (Naveen +). High counts of Common Snipe were 20 in Howard County on Mar. 23 (M. Wallace), 20 in Talbot County on Apr. 4 (Reese), and 23 at Sycamore Landing on Apr. 23 (White). A Short-billed Dowitcher was at the Easton sewage lagoons on Apr. 4 (Ringler +), one at Piscataway sewage ponds on Apr. 17 (Nistico), one in DC on May 14 (Czaplak), and 2 at the mouth of Four Mile Run, also in DC on the 24th (Hayes). The only report of Red Knots was 13 at Ocean City on May 9 (Paul DuMont). The high count of Semipalmated Sandpipers was 126 at Holland Island on May 29 (Armistead, Mignogno). Rare in spring, a Western Sandpiper was seen on Assateague on May 8 (Hayes). An early Least Sandpiper was on Assateague on Mar. 14 (Wierenga, Mignogno). White-rumped Sandpipers were represented by 5 on Assateague on May 8 (Hayes), 3 at Back River on May 16 (Ringler), 9 at Irish Grove on May 26 (Stasz), and 4 at Four Mile Run on May 29 (Hayes). A Dunlin was at the Easton sewage lagoons on Apr. 4 (Ringler +), 7 at Goose Island on May 2 (Hayes), and one at Tilghman Island on May 23 (Reese). Another rare spring migrant, the Stilt Sandpiper, appeared with 2 at West Ocean City on May 8-17 (Hayes +) and one at Loch Raven on May 19 (Dixon). A thoroughly documented Ruff was first seen at Blackwater on Apr. 16 (Ellison) and was observed by many others at least through the 25th when two were reported (Coble +).

Jaegers, Gulls. One each of Pomarine Jaeger and Parasitic Jaeger were seen on the May 1 pelagic trip. On the Apr. 24 trip an adult Long-tailed Jaeger was seen by Naveen, Wierenga, and Maurice Barnhill. One or two Iceland Gulls were seen at the Rockville landfill through Mar. 3 (Wilson). The Hains Point Lesser Black-backed Gull was last seen on Mar. 16 (Czaplak) and the Fort McHenry bird on Apr. 19 where Bielenberg also noted a different Lesser on May 1. Other Lesser Black-backs were a sub-adult at Rockville on Mar. 12 (Wierenga), an adult at Jug Bay on Mar. 21 (Hammer), and one in Prince Georges County on Apr. 11 (Nistico). A Ring-billed Gull with white wings was at Fort McHenry on May 24 (Bielenberg). A Black-headed Gull was seen at Sandy Point on Apr. 10 by Hans-Joachim Feddern. A high of 510 Bonaparte's Gulls was counted off Ocean City on Apr. 24 (Naveen). Others, away from the coast, were 1 at Rocky Gap on Apr. 4 (Twigg), 2 at Denton on Apr. 4 (Ringler +) with 1 there on the 12th (Hewitt), an immature on the Anacostia River on Apr. 14 (Gregoire), 8 at Hooper's Island on May 1 (Armistead +), and 3 at Deal Island on May 2 (Wierenga, Mignogno). An adult Little Gull in non-breeding plumage was seen at Back River on Apr. 4 (Wilkinson) and on the 10th (Holmes).

Terns, Skimmers. Two early Forster's Terns were seen at Ocean City on Mar. 24 (Slaughter). In Garrett County 26 were on Broadford Reservoir on Apr. 24 (Skipper). Also early at Ocean City were 4 Royal Terns on Mar. 24 (Slaughter) which grew to 38 there on Apr. 21 (Ellison). On the bay 22 Royals were at Holland Island on May 29 (Armistead, Mignogno). The only Black Terns reported were one early bird at Barren Island on Apr. 25 (Armistead), one at North Branch, Allegany

Co. on May 14 (Simons), and one at Hains Point on May 29 (Hayes). There were 82 Black Skimmers at Ocean City on Apr. 21 (Ellison). On the bay there were 3 at Bloodsworth Island, 23 at Holland Island, and 3 at South Marsh Island on May 29, and 15 at Hog Neck and 5 at Frances Gut, both Smith Island locations, on May 31 (Armistead +).

Owls. Wierenga heard single migrant Barn Owls over Annapolis on the nights of Mar. 31, Apr. 12 and May 4. Mignogno observed a nest of the Great Horned Owl at Deal Island WMA in early April, located in the middle of the heronry. Only 3 Great Blue Heron nests appeared to be active this year and they were apparently abandoned later; the owls fledged 2 young in May. The presence of the owls may have caused the failure of this normally productive heronry. In Caroline County a pair of Barred Owls with 2 young was seen at Tanyard on Apr. 28 (Worm) and another pair with 3 young at Denton on the 29th (R. Fletcher). Two Long-eared Owls were still at Gude's Nursery in Rockville on Mar. 12 (Wierenga, Mignogno). There were 5 Short-eared Owls at Deal Island WMA on Mar. 5-6 (Wierenga, Mignogno), one at Lower Marlboro on Mar. 27 (Kraus), and one in southern Frederick County on Mar. 19 (the Mehlmans). Paul Bystrak saw another Short-ear at Irish Grove on May 1, very late for a migrant and suggestive of a breeding bird. The last Saw-whet Owl was also at Gude's, on Mar. 12 (Wierenga, Mignogno).

Goatsuckers. Vagrant Chuck-will's-widows were heard in D.C. on May 19 (Czaplak), Howard County on May 25 (Solem), and at the Clearwater Nature Center in Clinton in late May (Lyon). Most unusual was a Whip-poor-will heard at the White House on Apr. 20 (David Manski).

Flycatchers. Margaret Donnald banded 2 Yellow-bellied Flycatchers at Adventure Sanctuary near Potomac on May 21. Wilkinson found an Alder Flycatcher singing at Harmans in Anne Arundel County on May 24 and on the same day Roger Eastman found 2 at the bog near Monkton where they probably bred the last two years. Among the late migrant passerines that Armistead often finds on the bay islands was an Eastern Pewee at Pines, Smith Island on May 31. Olive-sided Flycatchers were reported from Wicomico County, 5 miles southwest of Sharptown on May 7 (Effinger +), at Lilypons on May 22 (Paul DuMont), and in Frederick on May 31 (D. Wallace).

Swallows. Some very early migrants in this family were a Tree Swallow at Lake Elkhorn, Columbia on Mar. 13 (Ludwig), 2 Rough-winged Swallows at Hughes Hollow on Mar. 27 (Ringler +), a Barn Swallow at Annapolis on Mar. 22 (Wierenga), a Cliff Swallow at Blackwater on Mar. 28 (White +), and a Purple Martin at Deal on Mar. 13 (Wierenga, Mignogno). A late migrant Cliff Swallow was at Bloodsworth Island on May 29 (Armistead, Mignogno).

Raven, Nuthatches, Creepers. A Northern Raven at Phoenix, Baltimore County on May 22 (Edith Maynard) was out of range. Late Red-breasted Nuthatches were in Howard County on May 11 (Walsh) and at Rockville on May 15 (M. O'Brien). Dan Boone found a Brown-headed Nuthatch at Johnson WMA southeast of Salisbury on Apr. 23. This could be a new breeding location. Robert Hilton found Brown Creepers at a nest site in a dead tree at Seneca on May 9. All creepers found in May should be investigated for possible nests.

Wrens, Thrushes, Kinglets. A late Winter Wren was singing at Rockville on May 10 (M. O'Brien). The only Sedge Wrens reported were one at Irish Grove on Apr. 28 (Stasz, Robbins) and another singing at Rockville on Apr. 29 (Wierenga). Late Hermit Thrushes were one singing in Kent County on May 11 (Parks) and one at Denton on May 20 (Nuttle). A very early Swainson's Thrush was banded at Adventure on Apr. 25 (Donnald). A late Golden-crowned Kinglet was at Elkton on Apr. 28 (McCandless) and a late Ruby-crowned Kinglet at Indian Springs on May 15 (Dan Boone).

Pipits, Waxwings, Vireo. Sallie Thayer found 30-40 Water Pipits feeding in a field over a reclaimed strip mine on Mt. Nebo on Mar. 23. There were 11 Water Pipits at North Branch and Pinto along the Potomac in Allegany County on Apr. 7 (Twigg) and 80 at Remington Farms on Apr. 10 (Ringler +). Hundreds of migrating Cedar Waxwings were active along the C&O Canal in Montgomery County on May 15 (Ringler +). The only Philadelphia Vireo reported was at West Ocean City on May 16 (Ludwig).

Warblers. There were many early warbler records this year and few late ones. The early birds were: a Black-and-white Warbler singing at Bryans Road, Charles Co. on Apr. 3 (Nistico), a Worm-eating Warbler in Kent County on Apr. 16 (Parks), a Tennessee Warbler at Sycamore Landing on Apr. 24 (Hayes), a Black-throated Blue Warbler at Schell-Laurel, Garrett Co. on Apr. 24 (Thayer), a Black-throated Green Warbler at Herrington Creek on Apr. 19 (Thayer), a Northern Waterthrush singing along Nassawango Creek in Worcester County on Apr. 14 (Stasz), a Wilson's Warbler in Kent County on Apr. 27 (Parks), and an American Redstart near Cumberland on Apr. 18 (Twigg). Other records of note were a Swainson's Warbler seen at Pennyfield on May 11 (O'Brien), a Golden-winged Warbler banded at Adventure on May 11 (Donnald), a Brewster's hybrid near Savage on May 4 (Leifer) and one the same day in Columbia (Holmes), and another Brewster's at Indian Springs on May 16 (Boone, Dowell). A high of 20 Tennessee Warblers was counted in Rock Creek Park, D.C. on May 10-11 (Hayes). Connie Skipper watched a Nashville Warbler nest-building near Paradise Point, Garrett County on May 20. Another was heard singing on May 31 on Dan's Rock (Ringler +), which is another potential breeding location. Sam Dyke found Black-throated Green Warblers singing along Nassawango Creek near Wango through the end of May. These are quite possibly breeding birds of the coastal plain race, *Dendroica virens waynei*. Dave Abbott found Cerulean Warblers singing in unusual locations: in Battery Kimble Park in D.C. on May 4 and at Pocomoke Swamp on May 22. A late Palm Warbler was at Fort McHenry on May 12 (Bielenberg). Mourning Warblers also appeared a bit early with the first a singing male along Watts Branch in North Rockville on May 10-11 (O'Brien) and one banded at Adventure (the first of 4 for the season) on the 11th (Donnald). Others were found at Patuxent River Park on May 15 (Gregoire) and in Washington, D.C. on May 16 (Czaplak). Bystrak heard another near Hughesville, Charles Co. on May 31 on a Breeding Bird Survey route, though this bird was certainly a migrant.

Icterids, Tanagers. Bobolinks were not reported in large numbers this spring except hundreds were noted flying over Fort Smallwood on May 6 and 20, and over Sandy Point on May 8 (Wierenga). Other flocks were 50 at Beltsville on May 3 (Jim Speicher) and 75 in Talbot County on May 12 (Reese). Two late migrants were at Frances Gut, Smith Island on May 31 (Armistead +). An undescribed Yellow-

headed Blackbird was reported at Denton on Apr. 29 (Snyder). The largest flock of Rusty Blackbirds noted was 30 at Hughes Hollow on Apr. 8 (White). Boat-tailed Grackles moved into the Lower Eastern Shore in force in March, with 125 at Fairmount WMA on the 13th (Armistead) and 95 at Irish Grove on the 14th (Stasz). An early Summer Tanager was at Denton on Apr. 17 (Knotts) and the species showed up in several unusual locations: 2 in Kent County on May 11 (Parks), one in Howard County on May 22-23 (J. K. Boone), and one in a red cedar in the middle of a salt marsh on Bloodsworth Island on May 29 (Armistead, Mignogno).

Finches. Early Rose-breasted Grosbeaks were at Denton on Apr. 15 (Nuttall) and at Annapolis on Apr. 28 (Wierenga). The Indigo Bunting wintering at a feeder in Savage was last seen on Apr. 27 (Leifer), about the time spring migrants begin arriving. David Wallace found 3 Dickcissels in southern Frederick County on May 14, but they disappeared after the hay fields were cut. May Counters in Garrett County tallied 254 Evening Grosbeaks on the 1st. Single late migrants were flying over Irish Grove on May 15 (Stasz) and Beltsville on May 24 (Hayes). Also quite late was a female Purple Finch near Indian Head on May 31 (Nistico). Meanwhile, a House Finch laid the first egg in a nest near Baltimore on Apr. 1 (Ringler). Three Common Redpolls were seen in Woodbine and one other found dead there on Mar. 9 (Walsh). Redpolls were last seen at a feeder in Halfway, Washington Co. on Mar. 30 (Doyle) and Sallie Thayer banded her last redpoll on Apr. 10 at Oakland with her last sighting of one on the 15th. Elsewhere redpolls caused a flurry of excitement in early April with 2 in Baltimore on the 4th and 5th (Barbers), 3 at Newark Farms on the 6th to the 8th (Kirkwood), 1 at Sunnybrook, Baltimore Co. on the 10th (Steve Simon), 2 at Loch Raven on the 10th (Wheeler), and 5-10 on Hearthstone Mountain, Washington Co. on the same day (Dan Boone). Pine Siskins also made a strong showing in May with 149 counted on the 1st in Garrett County and late birds at the feeders at Patuxent WRC on the 20th (Jay Sheppard), at Halfway on the 22nd (Doyle), and banded at Towson on the 23rd (Cole). White-winged Crossbills finished the season with 2 being seen at Oakland through Apr. 7 and the flock of up to 8 at Woodend in Chevy Chase seen by many observers from Mar. 21 through Apr. 26.

Sparrows. A late Savannah Sparrow was at Fort McHenry on May 13 (Bielenberg) and 8 "Ipswich" Sparrows were on Assateague on Mar. 14 (Wierenga, Mignogno). Parks found a Henslow's Sparrow at Remington Farms on May 3, 7 were in the Elliott Island area on May 8 (Armistead +), and Boone found one singing along the edge of Cherry Creek in Garrett County on May 13. Armistead found 5 Seaside Sparrows singing near Fairmount WMA at 6:30 PM on Mar. 13. The latest Northern Junco was one banded at Adventure on May 12 (Donnald). Late Tree Sparrows were seen on Apr. 11 at Newark Farms (Ringler, Kirkwood) and in Montgomery County (Bonham). A White-crowned Sparrow in Howard County on May 25 (Dawson) ties the state departure record. Also late were a White-throated Sparrow at Rockville on May 31 (M. O'Brien) and a Fox Sparrow at a feeder in Denton through May 1 (Nuttall). Among the few Lincoln's Sparrows seen this spring was one on Roosevelt Island, D.C. on May 21 (Czaplak).

Addendum—Omitted from last spring's report was a small flock of Upland Sandpipers (5 or 6 birds) in a field near Brentland in Charles County on Apr. 19, 1981 seen by the Mudds and the Morrisises.

RELATION OF BREEDING BIRD SPECIES RICHNESS TO HABITAT AS SHOWN BY THE SILVER SPRING BREEDING BIRD SURVEY

JIM WILKINSON

The effect of urbanization on the breeding birds of a rural area is often registered by a decline in the number of species (species richness) and sometimes an increase in avian population density. Decrease in variety of species is caused by loss or fragmentation of habitats while any increase is usually due to a rise in numbers of certain pest birds (Geis 1976, Robbins 1980, Robbins and Van Velzen 1974). The purpose of this article is to relate breeding bird species richness with habitat conditions in a large metropolitan area to illustrate the aforementioned decline in species variety that accompanies urbanization. To accomplish this purpose I used data from 15 years' results of the Silver Spring Breeding Bird Survey. The survey route begins in Silver Spring just north of the Washington, D.C. beltway (Interstate 495) and ends near Seneca, almost 20 miles to the west (Figure 1). It is entirely within Montgomery County, Maryland and traverses, on secondary roads, a variety of habitats from densely residential to rural.

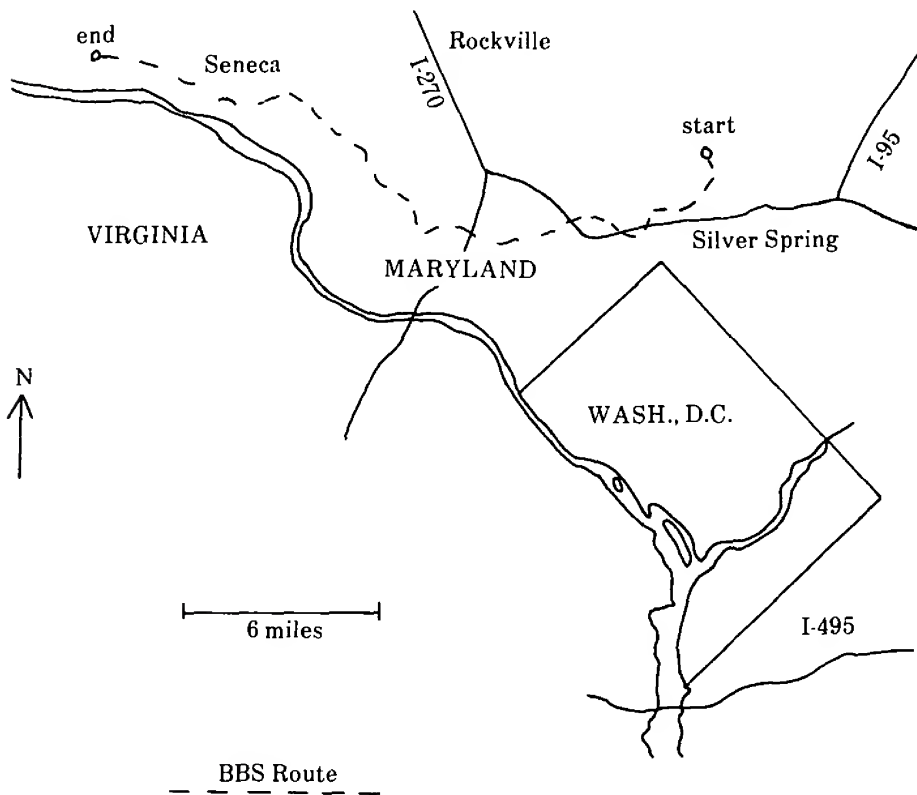


Figure 1. Location of Silver Spring Breeding Bird Survey route.

METHODS

For a description of Breeding Bird Survey (BBS) methods and summarization of results see Bystrak (1979). On the Silver Spring route, data were collected by Margaret Donnalld as observer from 1966 to 1974; I became observer in 1975 after assisting for 2 years. The 1965 and 1966 survey results were not used in this study because I did not have the summary sheets for those years. Part of a summary sheet is shown in Bystrak (1979); each of the 5 pages under which species totals are listed represents 10 adjacent stops along the BBS route. For the surveys of 1967 to 1980 I summed the number of species recorded on each page and then averaged the totals from a particular page for all surveys to get the mean number of species recorded on each 10 consecutive stops (Figure 2). To determine if the species totals for each page were statistically significant I analyzed page effects on species richness with a 2-way analysis of variance without interactions (Neter and Wasserman 1974, Nie et al. 1975). A 2-way analysis of variance was indicated because of the increase in number of bird species recorded on the entire route starting in 1969 as illustrated in Figure 3; the year of a particular survey might influence species totals also.

With species totals per page averaged, and analysis of variance performed to find their significance, I studied habitat on the sections of the Silver Spring BBS represented by each page. To do this I used the habitat form sent in 1981 to all BBS observers by the U.S. Fish and Wildlife Service for evaluation of disturbance and land use at stops 11-20 (page 2) of their routes, and recorded amounts of the various habitats on all pages of my route. I combined types of land use listed on the form into 2 categories: urban/suburban and rural/open. Under the first category were "suburban" (houses, apartments, offices, stores), "lawn" and "scattered trees" (golf courses and institutional grounds). For the rural/open heading I combined "open water" (large streams and ponds), "corn field," "pasture," "fallow field," "shrub/brush," "Pine" (second-growth stands of native species), "deciduous/conifer," "upland deciduous," "bottomland deciduous" and "swamp woods" (floodplain woods under water in spring or after heavy rains). Open water and swamp woods accounted for only a small part of the rural/open habitat because the Silver Spring BBS is limited to the Piedmont. Even at stops near the Washington Beltway there were patches of woods and brush (particularly in stream valley parks) that I counted as rural/open land use; likewise there were small housing developments and a golf course at stops near the end of the route (pages 4 and 5) that I recorded as urban/suburban.

Following instructions sent with the habitat form, I gave each type of land use at a stop a numerical value from 1 to 10; for the 10 stops covered by a page the sum of all habitat values was 100. The percentage of urban and rural habitat on each page of the Silver Spring BBS route could thus be found by adding the values for a particular habitat at all stops and then combining the totals for single land use types into either the urban/suburban or rural/open categories. I graphed the percent of rural/open habitat on pages 1-5 and compared the result to the graph of mean number of bird species recorded for each page. If the 2 graphs were similar in appearance I could be fairly certain that species richness was related to the amount of urban or rural habitat on the 10 stops represented by each page of the BBS.

RESULTS

In Figure 2 the graphs of species totals and percent of rural/open habitat per page are compared and they are quite similar. Pages 1 and 2 (stops 1-20) have the lowest species totals and the lowest percentage of open land, which is mostly confined to the valleys of Sligo Creek and Rock Creek. In both graphs there is a sharp jump in species totals and amount of open space from page 2 to page 3 (stops 21-30) while there is a similar but less pronounced rise in both values from page 3 to pages 4 and 5 (stops 31-50). The close relationship between the number of species observed on a section of the Silver Spring BBS covered by a particular page and the percent of rural or open habitat on that section is not coincidence but a true reflection of breeding bird species richness increasing along with habitat diversity. The analysis of variance results in Table 1 also support this conclusion, as they show that page number has a significant effect on number of species observed (the year of a survey is also important but less so than page number). I was unable to measure any order effect because I have never run the Silver Spring BBS in reverse (starting at Seneca and finishing at Silver Spring), although I believe any such effect would be small. I have conducted transect counts in urban and rural areas that have begun at the same time (just before sunrise) and have always observed more bird species on the rural routes than on the urban ones.

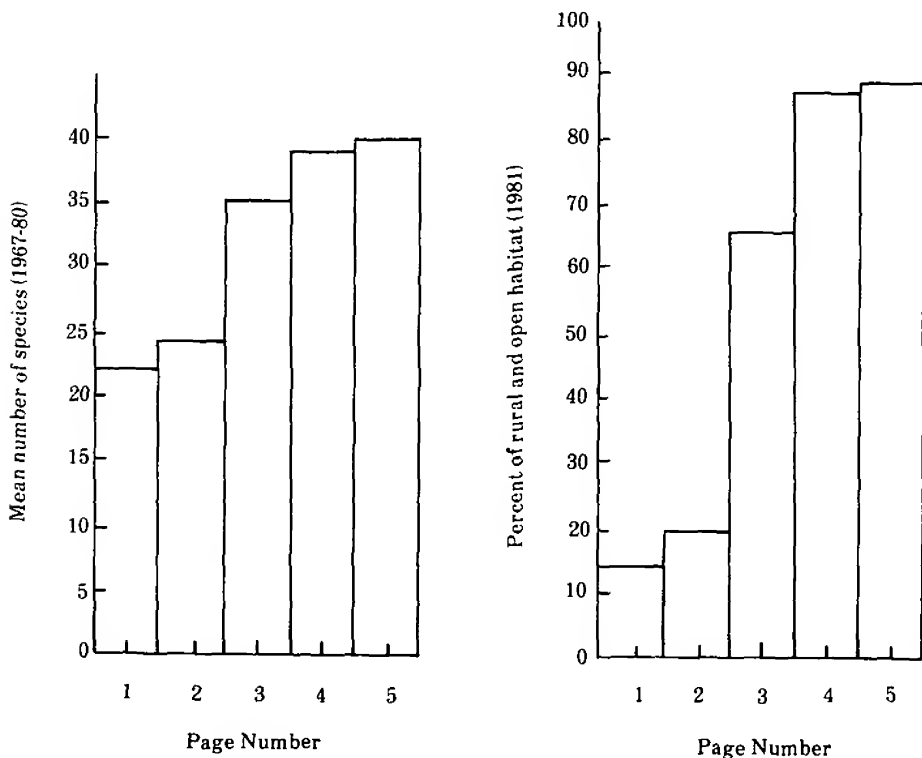


Figure 2. Comparison of mean number of species per page for Silver Spring BBS (left) with percent of rural and open habitat on stops covered by each page

Table 1. Page Number and Year of Survey Effects on Species Richness as Shown by a 2-way Analysis of Variance Without Interactions.

Source of variation	df	Sum of squares	Mean square	F	Signif. of F
Main effects	16	4039.754	252.485	28.074	0.000
Page number	4	3453.908	863.477	96.010	0.000
Year of survey	12	585.846	48.821	5.428	0.000
Error	48	431.692	8.994		
Total	64	4471.446	69.866		

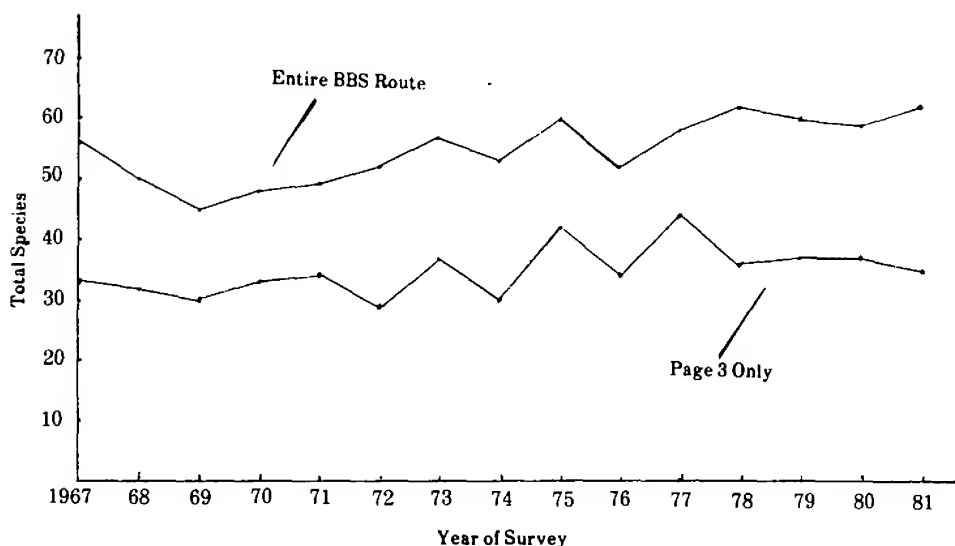


Figure 3. Comparison of species totals for entire Silver Spring BBS route and for page 3 (stops 21-30) of the same route.

There are other possibilities suggested by the graphs in Figure 2 and 3. One is that extending the BBS route closer to Washington, D.C. or farther into the country might produce losses or gains in species richness but such changes would be relatively slight. I make this prediction on the basis of the small changes in mean species observed between pages 1 and 2 and pages 4 and 5. Another item for consideration is the unique position of page 3 as the boundary between the urban and rural portions of the Silver Spring route. Although in species numbers and habitat page 3 is closer to pages 4 and 5, if development continues at its present pace species and land use values will resemble those for pages 1 and 2. For most of the survey period page 3 species totals have followed those of the entire BBS route (Figure 3); whether the decline in 1981 is the beginning of a trend or is temporary only future surveys will tell. So far the stops of page 3 have produced a good variety of species including both orioles, Blue Grosbeaks (*Guiraca caerulea*), Grasshopper Sparrows (*Ammodramus savannarum*) and in 1 year, a Dickcissel (*Spiza americana*).

ACKNOWLEDGMENTS

I wish to thank Margaret Donnalld for the loan of her 1967-74 BBS records, instruction in running the Silver Spring route and continued assistance in that task. I also thank Morrill Donnalld and David Fallow for their help in conducting the survey, and Chandler Robbins for his examination of the results of this study.

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STATEWIDE BIRD COUNT, MAY 1, 1982

JAMES STASZ

Weather is always the prime factor in the success of the annual May Count. This year no one had any complaints. Early risers in Western Maryland reported no wind, temperatures in the low 30's, and a little frost; Eastern Shore owlers and railers benefited from the still air and temperatures in the mid-40's. As the morning wore on and more birders joined the ranks in the field, a slight breeze kept watchers comfortable under cloudless skies with plenty of sun and still air reaching the low 60's in the west and near 80° in the east. The breeze increased in the afternoon along with cloudiness; a few in the field in the west were sprinkled upon. At sunset the air stilled once more, and as I walked from Rumbly Pt. to Irish Grove Sanctuary with the calls of rails and a dusk chorus of Seaside Sparrows, I wondered how others enjoyed the day.

For the first time in several years every county reported. The quality of the compilers' reports increased, with complete information on the miles and hours spent in the endeavor, and many with notes on the unusual sightings. The number of observers was about the same as last year, but the distribution changed: some were lured to Worcester County and participated on the pelagic trip, others left their traditional locations and explored new areas in the usually unbirded counties; Baltimore County experienced the negative effects of this exodus, but the overall trend toward more coverage can be seen in the results. Last year 22

counties reported, and had 25 species in common; this year the 23 counties "shared" 35 species, with 16 others found in 22 counties. Although a far cry from the potential 75 species that might be found in all 23 counties, I hope this is the start of a continuing trend.

The early date of this count is apparent from the tabulation. The traditional "late lingering waterfowl" were well represented, while there was a distinct paucity of thrushes and warblers. This year had much better weather than last (remember the day-long drizzle), increased mileage on foot, car, and by boat, (with a pelagic trip adding usually missed species), but the total species reported dropped from 264 to 252. If the weather cooperates and the intensity of coverage of the entire state continues, next year's count on May 7 could be a banner one.

Several new species were added to the annual Statewide May Count list: a Manx Shearwater was seen on the pelagic trip off Ocean City and details of this sighting will be presented in a separate article; Bob Ringler spotted the young male Common Eider that had been present since the winter at Ocean City Jetty; and Paul Bystrak spotted a Short-eared Owl sitting on a post at dawn near Round Pond on Irish Grove Sanctuary. The pelagic trip also provided rarely reported (in May) Red-throated Loon, Northern Gannet, Sooty Shearwater, Wilson's Storm Petrel, Red Phalarope, and Pomarine and Parasitic Jaegers. Floyd Parks sent an excellent description of a Lesser Golden Plover from Kent County, where Jim Gruber found the only Sedge Wren for this year's tally. Warren Biehlenberg sent a slide of a gull from Ft. McHenry in Baltimore, which was not *the* famous Lesser Black-backed Gull, just a different one. Mariana Nuttle kept her feeder active in Denton long enough to hold onto the only accepted Fox Sparrow, and Harriet Williams' feeder near Clarysville in Allegany County attracted Pine Siskins and the second May Count record of Common Redpoll.

Before this May Count, most observers and all compilers were advised of a list of certain species for which details were required. I have deleted from the final chart the following reports for lack of substantial details: Greater Scaup, Anne Arundel (2 changed to *scaup* sp.); Yellow-bellied Flycatcher, Calvert (2 deleted); Traill's Flycatcher, Anne Arundel (1); Bewick's Wren, Calvert (1); Gray-cheeked Thrush, Howard (1); Orange-crowned Warbler, Anne Arundel (1); Boat-tailed Grackle, Calvert (10); American Tree Sparrow, Allegany (9), Anne Arundel (2); Fox Sparrow, Anne Arundel (1).

Reports of rare, out-of-place, or out-of-time birds need more details than "seen by an experienced birder." I have yet to meet a faultless observer. Some species (Glossy Ibis, American Flamingo, Swallow-tailed Kite) are easy to describe and could survive an editorial red-pen with little more than who and where, but others (*Empidonax* flycatchers, some sparrows, shorebirds) need detailed descriptions. When in doubt, write some notes while making or immediately after an unusual sighting. I carry 3 x 5 cards for field notes, and have started a habit of turning these in with a more detailed "after-the-event report." Photos are always welcome and can be sent later.

The theme for 1982 was "spread out and explore" and a fine effort was made toward this goal. For 1983 I would like to suggest "early breeding species." This year Andrew and George Wilmot found a female Hooded Merganser with 6 downy

Table 1. Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Howa.	Balt.	Harf.	Cecl.	Pr.G.	An.Ar.	Calv.	Chas.	St.M.	Kent	Qu.An.	Caro.	Talb.	Dorc.	Wico.	Somr.	Worc.	TOTAL
Common Loon	4	2	—	—	—	1	2	1	—	—	—	53	2	5	4	4	10	—	71	23	—	6	70	263
Red-throated Loon	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	34	34
Loon sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	23
Horned Grebe	—	—	—	—	—	—	—	—	—	—	1	1	11	8	—	—	—	—	—	—	—	—	—	5
Pied-billed Grebe	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	3	—	5
Sooty Shearwater	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	26
Manx Shearwater	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Wilson's Storm Petrel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49	49
Northern Gannet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94	94
Double-cr. Cormorant	—	—	—	—	—	7	—	—	4	—	—	39	—	9	1	3	1	—	75	39	159	312	163	812
Great Blue Heron	3	1	2	—	1	7	4	2	26	11	37	28	4	230	4	38	12	16	86	38	18	20	7	595
Green Heron	2	12	17	11	1	6	12	15	6	5	22	25	—	5	6	6	—	5	10	10	5	26	6	213
Little Blue Heron	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	4	—	6
Cattle Egret	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	1	8	13	—	31	18	85	159	
Great Egret	—	—	—	—	—	—	—	—	1	—	5	—	—	—	2	—	3	—	1	31	—	29	28	100
Snowy Egret	—	—	—	—	—	—	—	—	—	—	1	2	—	—	1	—	1	—	31	51	4	49	43	183
Louisiana Heron	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	3	2	7
Black-cr. Night Heron	—	—	2	—	—	1	—	—	—	7	—	—	—	—	—	1	—	—	2	1	—	8	4	26
Yellow-cr. Nt. Heron	—	—	—	—	—	1	(2)	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Least Bittern	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
American Bittern	—	—	1	—	—	2	—	—	—	—	2	1	—	—	—	1	—	—	—	1	—	1	—	9
Glossy Ibis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	37	22	61
Mute Swan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	6	1	22	—	—	—	—	31
Whistling Swan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	2	—	—	—	—	1	—	7
Canada Goose	10	—	—	9	6	97	46	2	24	324	100	21	—	3	—	228	6	14	228	55	41	94	19	1327
Snow Goose	—	—	—	—	—	—	—	—	25	—	—	—	—	—	—	1	—	—	—	1	—	—	—	27
Mallard	17	28	83	41	16	147	157	86	34	21	37	80	5	13	6	477	33	65	120	25	56	44	29	1620
Am. Black Duck	1	1	2	—	—	2	—	1	—	1	7	11	—	—	—	8	21	13	3	30	5	42	13	161
Gadwall	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	5	—	4	—	11
Common Pintail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2
Green-winged Teal	—	—	—	—	—	—	1	—	—	—	5	—	2	—	—	3	2	2	6	78	—	41	2	142
Blue-winged Teal	12	8	7	1	—	1	—	—	8	1	25	—	6	—	—	3	—	1	8	35	3	20	4	143
American Wigeon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	1	—	—	2	—	50	—	64
Northern Shoveler	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	2	—	6
Wood Duck	12	54	68	54	1	74	13	12	12	8	63	4	1	15	—	18	1	15	18	—	1	—	2	446
Redhead	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2
Ring-necked Duck	—	6	—	—	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9
Canvasback	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	—	—	—	—	—	—	14
Greater Scaup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	—	—	—	—	—	—	—	26
Lesser Scaup	13	—	1	—	—	—	—	2	—	—	8	2	—	6	—	4	10	—	—	111	2	—	2	161
Scaup sp.	—	—	—	—	—	—	—	—	—	—	—	8	—	—	—	—	—	—	—	—	—	—	—	8
Common Goldeneye	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	4	—	—	—	—	—	—	—	5

Table 1 (cont.), Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Iowa	Balt.	Hart.	Cecl.	Pr.G.	An.Ar.	Calv.	Chas.	St.M.	Kent	Qu.An.	Caro.	Talb.	Dorc.	Wico.	Somr.	Worc.	TOTAL
Bufflehead	—	—	1	—	—	—	1	—	—	1	1	20	2	—	—	5	—	—	22	—	—	—	5	58
Common Eider	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
White-winged Scoter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	—	—	30	—	—	55
Surf Scoter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	—	—	31
Black Scoter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
Scoter sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	177	—	—	177
Ruddy Duck	—	2	—	—	—	—	—	—	—	—	—	—	16	—	3	—	1	—	—	—	—	—	—	22
Hooded Merganser	—	—	—	1	—	5	—	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	13
Common Merganser	—	—	1	—	—	—	—	—	3	—	6	20	—	—	1	—	—	—	—	—	—	—	—	31
Red-br. Merganser	2	—	—	—	—	—	—	—	—	—	1	—	3	—	—	—	—	—	7	—	—	—	3	16
Turkey Vulture	17	67	89	60	5	37	84	23	35	29	56	37	2	35	14	95	38	338	180	50	142	106	90	1629
Black Vulture	—	4	20	28	—	6	9	26	3	5	3	7	4	11	7	7	3	4	31	6	2	7	1	194
Sharp-shinned Hawk	1	6	—	1	—	7	6	1	2	3	3	8	4	2	10	1	—	—	4	1	—	—	—	60
Cooper's Hawk	1	4	1	—	—	—	2	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	10
Red-tailed Hawk	4	8	3	5	1	10	7	6	7	5	3	4	1	—	8	10	3	16	12	5	8	5	6	137
Red-shouldered Hawk	1	1	3	4	1	18	41	9	—	—	11	12	—	3	1	1	—	5	1	1	—	1	—	114
Broad-winged Hawk	3	32	38	—	1	108	14	33	50	3	3	12	1	2	—	1	—	—	7	1	—	—	1	310
Rough-legged Hawk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	2
Bald Eagle (ad. im)	—	—	—	—	—	—	—	—	—	—	3.0	1.0	2.0	1.0	3.2	2.2	2U	8.0	3.0	9U	4U	1.1	—	44
Northern Harrier	—	1	1	—	—	—	1	3	—	1	1	—	—	—	—	4	1	2	3	13	3	9	1	44
Osprey	3	6	13	8	1	13	3	2	11	3	9	18	8	22	13	16	32	23	129	30	22	15	7	407
Peregrine Falcon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Merlin	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1	—	—	—	—	2	5
American Kestrel	3	3	10	5	2	3	4	3	5	3	5	2	1	1	1	6	—	4	3	—	—	—	—	64
Ruffed Grouse	33	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39
Bobwhite	—	7	19	2	1	25	22	14	9	17	24	29	9	18	14	25	26	129	158	29	27	67	63	734
Ring-necked Pheasant	—	1	25	14	15	19	33	29	10	—	—	—	—	—	—	—	—	—	1	5	—	—	—	152
Wild Turkey	7	8	5	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28
King Rail	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1	1	—	—	—	—	5
Clapper Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	12	1	14
Virginia Rail	—	—	—	—	—	—	—	—	—	1	1	12	—	—	—	4	—	1	2	45	—	31	—	97
Sora	—	—	—	—	—	—	—	—	—	—	1	4	—	—	—	—	—	—	4	—	4	—	—	13
Black Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	6	—	16
Common Gallinule	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
American Coot	2	—	1	—	—	—	—	1	—	—	—	—	—	—	—	2	—	—	—	—	20	2	—	28
Am. Oystercatcher	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	17	—	18
Semipalmated Plover	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	2	—	5
Killdeer	23	25	18	5	8	7	16	10	4	2	6	8	—	4	5	8	1	27	8	4	11	4	2	206
Lesser Golden Plover	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Black-bellied Plover	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	3	—	—	—	1	—	5	41	51
Upland Sandpiper	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	4
Greater Yellowlegs	1	2	3	29	—	3	1	9	14	7	50	4	10	6	2	22	15	35	55	40	13	90	5	416

Table 1 (cont.) Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Howa.	Balt.	Hart.	Cecl.	Pr.G.	An.Ar.	Calv.	Chas.	St.M.	Kent	Qu.An.	Caro.	Talb.	Dorc.	Wico.	Sumr.	Worc.	TOTAL
Lesser Yellowlegs	11	5	2	30	—	1	—	4	3	4	41	2	2	2	—	8	1	14	5	60	7	26	2	230
Solitary Sandpiper	3	8	9	21	—	7	12	—	2	6	10	8	—	—	—	—	—	1	2	—	3	—	—	92
Willet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	8	86	449	578
Spotted Sandpiper	17	8	16	7	—	17	22	19	8	—	59	40	1	7	2	3	1	1	10	—	1	2	2	213
Ruddy Turnstone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	33
Red Phalarope	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
American Woodcock	4	1	—	—	—	4	2	5	—	6	6	9	—	—	—	12	—	3	3	26	—	2	1	84
Common Snipe	3	—	—	1	—	—	—	—	1	—	3	—	—	—	—	1	—	4	1	3	—	—	—	17
Short-b. Dowitcher	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	4	6
Red Knot	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Sanderling	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63	63	—
Semipalm Sandpiper	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	2	—	—	3	—	20	—	—	26
Least Sandpiper	—	—	—	1	—	—	—	4	10	—	25	—	—	—	—	40	1	5	9	12	5	6	—	118
Pectoral Sandpiper	—	—	—	6	—	—	—	2	—	—	3	3	—	—	—	35	—	—	—	2	—	—	—	51
Dunlin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	108	—	—	29	364	509
Pomarine Jaeger	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Parasitic Jaeger	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Jaeger sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Great Blk.-back. Gull	—	—	—	—	—	—	—	8	30	49	—	29	—	—	40	28	10	—	3	27	6	7	77	314
Lesser Blk.-back. Gull	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Herring Gull	1	2	—	—	5	—	—	9	2	13	61	157	—	18	201	236	40	7	44	329	29	117	82	1353
Ring-billed Gull	19	82	2	—	12	61	2	852	45	137	3	856	7	67	28	882	27	120	126	56	121	12	364	3881
Laughing Gull	—	—	—	—	—	—	—	27	—	2	3	2699	7	50	51	85	182	742	953	171	480	672	1882	8006
Bonaparte's Gull	2	—	—	—	—	—	—	6	2	—	2	1	—	5	—	3	—	—	—	8	—	3	3	35
Forster's Tern	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	10	50	45	138
Common Tern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	21	3	4	306	335
Little Tern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	1	15	20
Royal Tern	—	—	—	—	—	—	—	—	—	—	—	—	5	8	13	—	—	—	1	7	2	24	39	99
Caspian Tern	—	—	—	—	—	—	—	2	—	—	2	4	2	1	4	—	—	—	—	1	—	—	—	16
Black Tern	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	5
Black Skimmer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	37
Rock Dove	27	102	172	159	6	231	128	1224	41	8	167	85	—	8	—	47	13	137	36	7	7	5	31	2641
Mourning Dove	29	58	244	81	23	300	241	145	68	29	147	206	13	53	27	76	33	130	134	20	51	48	40	2196
Ringed Turtle Dove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Yellow-billed Cuckoo	—	1	—	—	3	—	—	—	—	—	3	3	—	1	—	1	—	5	1	1	7	3	2	31
Black-billed Cuckoo	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Barn Owl	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	1	—	1	—	3	—	4	—	12
Screech Owl	—	4	1	—	—	—	—	—	4	2	—	2	—	—	—	3	—	1	12	2	—	13	2	46
Great Horned Owl	3	1	3	—	—	1	1	3	6	14	2	5	—	—	—	4	2	5	13	4	4	22	2	95
Barred Owl	9	3	3	1	—	9	8	2	—	5	3	5	—	1	—	4	1	10	14	—	—	6	1	85
Short-eared Owl	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Chuck-will's-widow	—	—	5	—	—	—	—	—	—	—	1	1	—	—	—	18	—	1	3	5	—	2	5	41
Whip-poor-will	4	6	2	1	24	6	—	25	—	21	1	43	—	1	27	21	—	14	6	5	3	24	6	140

Table 1 (cont.). Statewide Bird Count, May 1, 1982

Species	Gurr.	Alle.	Wash.	Fred.	Carr.	Mont.	Howa.	Balt.	Harl.	Cecil.	Pr.G.	An.Ar.	Calv.	Chas.	St.M.	KentQu.	An.	Caro.	Talb.	Dorc.	Wico.	Somr.	Worc.	TOTAL
Common Nighthawk	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	1	—	—	—	—	5
Chimney Swift	34	76	208	156	9	61	40	89	31	4	31	157	10	8	35	133	9	146	242	11	29	35	12	1566
Ruby-thr Hummingbd	—	1	1	—	—	3	2	—	2	—	1	6	2	1	2	2	—	7	5	—	2	2	2	41
Belted Kingfisher	9	12	15	7	3	4	11	10	2	2	6	6	2	1	3	1	—	6	1	—	5	2	—	108
Common Flicker	12	60	121	20	16	97	68	21	29	20	24	109	6	6	5	43	14	28	71	17	9	24	26	846
Pileated Woodpr	2	25	32	6	3	31	7	9	1	2	8	12	—	1	—	1	—	6	5	5	1	9	5	171
Red-bellied Woodpr	8	59	106	38	13	206	132	40	23	22	65	150	10	30	17	43	15	69	148	26	18	17	29	1284
Red-headed Woodpr	2	2	14	2	—	8	—	—	—	2	4	1	1	20	5	—	1	1	5	1	2	4	75	—
Yellow-b. Sapsucker	—	—	1	—	—	—	—	—	—	—	—	2	—	—	—	—	1	1	1	—	—	—	—	5
Hairy Woodpecker	14	20	21	3	—	14	11	7	2	—	3	14	1	1	—	8	1	5	1	2	1	3	5	137
Downy Woodpecker	36	45	97	19	13	127	103	34	12	9	32	112	3	18	8	46	8	49	38	10	25	11	28	883
Eastern Kingbird	2	6	27	7	5	45	18	8	5	4	11	10	—	11	11	6	4	28	16	17	13	25	7	296
Gt. Crested Flycatch.	1	3	10	1	—	18	—	1	—	1	3	7	—	1	—	7	2	43	26	16	6	7	6	159
Eastern Phoebe	9	21	80	8	9	55	32	24	6	7	16	5	5	5	1	9	—	24	16	—	5	7	10	354
Acadian Flycatcher	—	—	—	—	—	1	—	1	—	1	3	—	—	—	—	2	—	2	—	—	—	—	—	10
Least Flycatcher	1	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	3
Eastern Pewee	—	2	2	—	1	—	5	—	—	—	4	—	—	1	—	—	—	4	3	—	1	—	1	24
Horned Lark	—	—	18	3	—	5	—	1	—	2	2	—	—	—	—	19	3	70	15	1	2	4	5	150
Tree Swallow	94	29	95	15	—	34	22	17	17	34	59	410	76	28	30	190	15	46	65	35	13	17	41	1382
Bank Swallow	—	26	19	7	—	—	2	—	4	43	8	59	15	—	—	56	1	4	2	—	—	—	—	246
Rough-winged Swallow	4	26	67	28	2	66	13	13	5	9	20	22	6	2	—	5	13	16	4	—	20	—	2	343
Barn Swallow	90	83	144	60	10	123	163	138	62	48	418	501	23	94	59	211	79	377	364	210	219	143	225	3844
Cliff Swallow	13	7	10	—	—	14	37	1	—	—	4	6	—	—	—	—	—	—	—	—	—	—	—	92
Purple Martin	17	10	64	12	—	11	34	16	29	31	32	87	70	12	18	121	41	266	41	25	191	138	25	1291
Blue Jay	259	158	416	251	91	2074	1629	680	429	59	312	1679	437	25	56	192	48	248	260	14	88	37	69	9511
Northern Raven	2	4	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
American Crow	221	153	328	169	50	480	351	167	83	27	170	328	30	77	41	84	77	209	135	20	92	78	71	3441
Fish Crow	—	1	27	12	1	46	20	18	11	10	43	133	9	10	2	38	33	42	220	35	6	50	57	824
Crow sp. (silent)	—	—	—	—	—	—	—	—	51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51
Black-cap. Chickadee	130	84	42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	256
Carolina Chickadee	—	—	49	43	23	350	247	133	26	28	127	302	18	78	36	124	27	162	244	16	82	73	66	2254
Tufted Titmouse	35	130	217	61	11	270	219	104	26	16	91	218	16	48	25	43	16	190	246	17	70	28	72	2169
White-breast Nuthatch	48	44	50	10	4	42	25	11	3	1	3	18	—	2	—	1	1	4	—	1	—	—	4	273
Brown-headed Nuthatch	—	—	—	—	—	—	—	—	—	2	5	50	—	1	—	7	1	2	7	—	4	7	1	142
Red-breast Nuthatch	21	2	5	6	—	2	13	3	3	—	—	—	—	—	—	—	—	—	2	1	5	8	—	16
Brown Creeper	9	7	6	—	—	5	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	29
House Wren	15	13	66	80	7	259	63	51	13	8	13	58	—	2	—	34	4	13	5	11	46	82	29	872
Winter Wren	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Carolina Wren	2	11	38	32	2	50	28	15	3	7	17	88	6	11	15	10	8	41	58	10	30	59	85	627
Marsh Wren	—	—	—	—	—	—	—	—	—	—	1	7	—	—	—	7	1	1	2	32	—	133	3	187
Sedge Wren	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Northern Mockingbird	—	41	55	58	8	142	132	61	42	27	83	149	5	20	33	49	31	114	68	18	63	59	23	1281
Gray Catbird	1	44	43	23	13	153	175	68	15	16	54	115	2	6	16	45	12	57	25	16	23	119	15	1056

Table 1 (cont.). Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Howa.	Balt.	Harf.	Cecl.	Pr. G.	AnAr.	Culv.	Chas.	St.M.	Kent.	QuAn.	Caro.	Talb.	Dorc.	Wico.	Somr.	Worc.	TOTAL
Brown Thrasher	15	42	121	10	5	33	29	18	11	4	13	71	3	10	10	18	6	71	56	3	20	11	9	589
American Robin	338	479	496	271	58	431	393	170	101	85	121	350	36	44	37	407	47	344	609	55	222	131	118	5343
Wood Thrush	9	26	31	9	1	77	62	12	20	23	36	66	4	17	5	59	11	97	142	5	21	23	35	791
Hermil Thrush	—	—	2	—	—	1	2	2	—	1	1	5	1	—	1	—	—	—	—	—	1	—	1	18
Swainson's Thrush	—	—	—	—	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	3
Veery	2	1	1	1	—	—	6	—	—	—	2	2	—	—	—	1	—	—	—	—	—	—	—	16
Eastern Bluebird	9	14	105	25	6	60	72	11	28	2	72	10	1	19	21	8	—	44	15	4	7	4	4	541
Blue-gray Gnatcatcher	120	88	212	28	13	371	173	90	21	31	74	119	2	64	9	50	1	41	123	16	22	31	33	1732
Ruby-cr. Kinglet	96	10	54	4	—	19	4	14	4	1	4	34	1	—	—	9	3	—	2	—	—	—	1	260
Water Pipit	—	—	—	1	—	9	90	—	—	6	—	3	—	—	—	32	—	—	3	—	—	—	—	144
Cedar Waxwing	—	87	188	—	18	106	46	26	17	6	44	78	24	98	16	31	12	41	31	—	31	15	46	961
Starling	133	413	389	406	98	760	656	724	241	68	174	738	30	89	54	315	148	916	577	175	377	198	197	7876
White-eyed Vireo	3	—	10	3	4	81	102	56	27	23	51	105	6	51	20	57	16	77	59	12	58	104	108	1033
Yellow-thr. Vireo	2	3	11	—	—	25	4	8	1	4	8	15	—	6	—	8	—	6	5	—	3	3	—	112
Solitary Vireo	12	—	6	—	—	5	3	3	1	1	—	12	1	—	—	5	—	—	3	—	1	—	—	53
Red-eyed Vireo	2	30	77	2	—	80	28	16	6	15	91	187	9	115	13	64	7	93	119	10	28	44	56	1092
Warbling Vireo	—	2	62	6	—	28	—	2	1	—	—	1	—	—	—	3	—	3	—	—	—	—	—	108
Black-&-white Warbler	5	2	19	—	3	22	30	13	7	6	21	66	1	14	3	12	7	18	33	10	23	24	30	369
Prothonotary Warbler	—	8	22	—	—	36	1	1	—	1	15	14	—	5	—	11	1	23	8	6	21	34	28	235
Worm-eating Warbler	—	13	12	1	—	7	4	2	1	6	1	4	—	5	—	5	1	2	8	11	3	23	—	137
Golden-winged Warbler	—	2	—	—	—	1	—	—	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	6
Blue-winged Warbler	—	2	2	2	—	4	14	7	2	—	7	18	—	1	2	13	—	2	12	2	—	—	2	92
Tennessee Warbler	—	—	—	—	—	1	—	3	—	—	1	2	—	—	—	—	—	1	—	—	—	—	—	8
Nashville Warbler	2	—	2	—	—	1	—	—	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	8
No. Parula Warbler	1	35	31	—	—	124	51	29	3	10	47	85	1	50	9	17	—	6	15	3	4	4	7	532
Yellow Warbler	11	29	60	2	3	22	31	14	28	17	15	28	1	4	3	105	8	4	15	25	19	94	11	555
Magnolia Warbler	3	3	—	—	—	—	2	—	—	—	—	1	—	—	—	3	—	—	—	—	—	—	—	12
Cape May Warbler	2	—	—	—	—	2	2	1	—	—	1	2	—	—	—	1	—	1	1	—	—	—	—	13
Blk-thr. Blue Warbler	3	1	7	—	1	12	3	5	1	3	3	21	—	—	4	2	—	7	3	—	—	—	—	76
Yellow-rumped Warbler	62	73	544	61	26	1034	351	54	54	29	192	928	4	55	72	349	90	158	578	15	100	98	64	4991
Blk-thr. Green Warbler	13	3	19	—	—	15	5	8	2	1	5	14	—	—	—	7	1	—	4	2	—	—	1	100
Cerulean Warbler	—	20	26	—	—	15	1	4	—	—	3	3	—	—	—	1	—	—	—	—	—	—	—	73
Blackburnian Warb.	3	1	—	—	—	4	2	1	—	—	—	—	—	—	—	8	1	4	—	—	—	—	—	24
Yellow-thrtd. Warb.	—	12	37	3	—	16	2	3	1	—	—	1	—	—	—	—	1	—	7	—	3	6	12	104
Chestnut-sided Warb.	—	2	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	5
Bay-breasted Warb.	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	2
Blackpoll Warbler	—	—	—	—	—	—	2	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	6
Pine Warbler	—	10	22	—	—	—	13	—	—	—	31	18	1	7	5	25	7	14	46	40	33	79	65	416
Prairie Warbler	2	9	45	1	2	59	28	23	9	11	37	61	1	34	9	9	1	19	8	10	39	56	25	498
Palm Warbler	1	8	3	—	—	—	5	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—	—	23
Ovenbird	—	4	4	1	1	37	50	22	4	14	79	91	3	28	—	40	1	69	35	24	28	105	112	752
No. Waterthrush	—	11	6	—	—	8	2	2	1	—	1	7	1	—	—	1	—	1	2	—	—	—	—	43

Table 1 (cont.). Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Hova.	Balt.	Harf.	Ceel.	Pr.G.	AnAr.	Calv.	Chas.	St.M.	Kent	QuAn.	Caro.	Talb.	Dorc.	Wico.	Somr.	Werc.	TOTAL
La. Waterthrush	8	23	31	5	5	28	23	19	5	1	4	5	1	5	—	3	1	5	12	—	—	5	10	199
Kentucky Warbler	—	—	—	—	—	1	3	—	—	—	1	1	—	1	—	2	—	10	4	—	3	4	12	42
Common Yellowthroat	1	14	36	11	14	150	94	57	21	45	46	150	7	19	8	135	31	63	97	95	59	238	98	1489
Yellow-br. Chat	—	2	1	—	—	4	3	3	1	1	6	7	—	2	1	3	—	5	3	1	1	4	1	49
Hooded Warbler	1	—	—	—	—	1	11	3	1	—	36	68	5	10	—	—	—	1	1	1	—	4	2	145
Canada Warbler	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
American Redstart	8	19	48	1	—	28	27	6	5	2	11	22	4	13	1	9	2	7	2	—	—	3	4	222
House Sparrow	92	122	268	183	32	210	245	228	48	16	161	151	20	56	61	217	10	555	462	50	128	125	234	3674
Bobolink	18	2	2	—	—	—	22	4	—	1	5	171	100	—	—	2	—	2	8	4	—	15	—	356
Eastern Meadowlark	52	46	132	50	1	44	34	10	13	7	15	16	3	4	17	10	19	27	18	45	2	41	15	621
Red-wing. Blackbird	414	200	324	226	50	423	260	196	328	164	212	696	359	196	86	569	162	926	2186	900	444	387	327	10035
Orchard Oriole	—	3	4	3	—	14	2	3	—	4	2	14	4	6	5	13	1	24	34	12	26	12	5	191
Northern Oriole	—	12	27	3	1	27	2	5	1	3	1	3	—	5	—	6	1	20	—	—	4	—	—	121
Rusty Blackbird	26	2	15	—	—	10	—	—	—	—	2	9	—	—	—	14	—	1	—	—	—	—	—	79
Boat-tailed Grackle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	—	—	—	83	148	249
Common Grackle	424	297	1373	615	67	629	350	246	342	413	239	842	64	240	246	556	173	2020	3026	700	1041	439	1075	15417
Brown-head. Cowbird	130	82	196	35	38	252	233	125	22	52	52	157	18	22	6	25	22	204	339	55	75	65	291	2444
Scarlet Tanager	1	5	9	—	—	8	12	3	—	3	14	42	—	8	1	14	—	24	31	1	10	3	8	198
Summer Tanager	—	—	—	—	—	—	—	—	—	—	1	2	—	—	1	—	—	7	1	8	1	1	1	23
Northern Cardinal	85	146	369	124	43	724	482	188	78	59	113	537	52	75	67	222	59	274	449	35	106	146	120	4553
Rose-br. Grosbeak	2	—	1	—	1	1	1	—	—	1	1	1	—	—	—	—	—	2	—	—	—	—	—	11
Blue Grosbeak	—	—	—	—	—	—	—	—	—	2	2	4	—	1	1	3	—	14	10	1	4	7	1	50
Indigo Bunting	—	15	2	1	—	1	2	2	3	—	6	9	1	7	5	3	—	12	1	—	3	1	1	75
Evening Grosbeak	254	107	39	—	—	26	21	33	—	1	12	—	—	6	—	—	8	6	2	—	3	—	—	518
Purple Finch	50	64	1045	12	10	221	150	48	4	5	25	97	—	9	5	12	—	—	13	—	1	—	1	1772
House Finch	39	98	65	43	—	35	27	51	6	20	15	26	3	—	—	23	—	34	20	—	—	—	—	505
Common Redpoll	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Pine Siskin	149	39	70	4	—	13	16	13	1	—	14	25	—	5	—	6	—	—	15	—	2	—	—	372
American Goldfinch	208	672	1848	169	86	1144	512	282	196	35	119	483	63	95	35	284	19	177	627	24	21	29	60	7188
Rufous-sided Towhee	194	78	175	23	13	156	193	125	28	29	47	184	10	24	7	79	25	118	95	25	51	128	63	1870
Savannah Sparrow	9	10	8	3	—	3	6	7	—	—	21	33	3	—	10	3	17	2	9	5	1	5	3	158
Grasshopper Sparrow	—	—	68	14	1	1	13	4	1	2	17	2	—	—	—	1	—	14	5	3	—	—	—	146
Henslow's Sparrow	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—	6
Sharp-tailed Sparrow	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
Seaside Sparrow	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	45	5	189	4	—	245
Vesper Sparrow	1	1	40	3	—	—	2	—	—	—	—	1	—	—	—	3	—	6	—	—	—	—	—	57
Northern Junco	2	—	7	—	—	2	2	2	—	—	—	1	—	—	—	4	—	22	1	—	—	—	—	43
Chipping Sparrow	220	119	149	44	4	57	60	32	36	34	38	93	6	14	14	52	30	120	198	30	44	57	54	1505
Field Sparrow	37	35	144	23	27	120	69	69	9	24	35	94	4	18	1	71	8	51	54	6	9	40	5	953
White-crowned Sparrow	—	3	12	7	—	2	2	1	1	—	—	1	—	—	—	9	5	4	1	—	—	—	—	48
White-throated Sparrow	83	128	377	63	31	334	256	126	50	21	85	696	34	59	112	144	40	262	408	20	97	84	54	3564

Table1 (cont.). Statewide Bird Count, May 1, 1982

Species	Garr.	Alle.	Wash.	Fred.	Carr.	Mont.	Howa.	Balt.	Hart.	Cecl.	Pr.G.	AnAr.	Calv.	Chas.	St.M.	Kent.	QuAn.	Caro.	Talh.	Dorc.	Wico.	Somr.	Worc.	
Fox Sparrow	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	
Swamp Sparrow	27	6	3	1	1	4	5	12	—	1	11	17	—	2	—	7	1	1	3	—	3	1	—	106
Song Sparrow	137	83	132	95	21	213	184	9722	—	23	41	147	32	24	10	45	8	19	33	10	21	100	16	1513
Total Species	118	134	139	99	73	138	131	130	111	116	154	163	90	110	86	165	162	138	157	136	118	143	151	252
Total Individuals	5119	5648	13051	4320	1087	14450	10107	7695	3266	2529	5289	17375	1791	2808	1881	8322	2020	11337	11925	4871	7375	7014	9338	158628

Coverage and Weather

Party-hours: foot	54	50	74	28	14	124	125	50	21	9	38	80	17	21	29	14	21	56	42	13	13	52	20	965
car	23	59	23	6	1	14	14	8	11	17	17	15	0	4	1	28	8	40	20	8	17	10	24	368
boat	0	0	0	0	0	0	0	0	0	0	9	0	2	4	0	0	0	1	0	0	2	2	11	31
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
total	77	108	98	34	15	138	139	57	32	26	64	95 +	19	29	30	42	30	99	62	21	32	64	56	1366
Party-miles: foot	45	68	55	13	11	90	107	30	22	8	36	49 +	10	19	25	19	20	62	27	4	8	25	12	766
car	362	230	308	162	10	164	214	56	219	140	122	136 +	0	91	25	263	157	469	556	170	149	65	198	4086
boat	0	0	0	0	0	0	0	0	0	0	20	0	4	6	0	0	0	2	0	0	10	2	100	144
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
total	407	298	363	175	21	254	321	86	241	148	178	185	14	116	50	282	177	535	582	174	168	92	310	4998
Starting Time	0530	0530	0430	5648	0630	0515	0345	0600	0400	0130	—	0530	—	0530	0800	0300	0615	0010	0330	0000	0545	0024	0440	0000
Ending Time	2130	2100	1930	2000	1800	1815	2100	1845	1800	2010	—	2030	—	2000	2030	1930	1915	2400	1800	2100	1810	2400	2100	2400
Total Observers	18	24	30	16	6	54	33	12	9	3	15	14 +	4	6	6	13	9	42	15	3	11	11	18 +	372 +
Total Parties	(11)	16	11	(10)	5	(33)	21	9	5	3	10	11 +	3	5	4	5	3	29	6	1	5	7	5	
Maximum temperature	66	63		75		75	70's	72	75		75		78	75	78	70's	80		75		60's	80		
Minimum temperature	31	45		45		40	50's	35	50		45			42	45	53		43		48			42	31
Sky in morning	sun		clr	clr		clr	sun	clr	clr		sun			sun	clr	clr	sun	sun	sun	clr			sun	clr
Sky in afternoon	pc	pc	cd	pc		pc	pc	pc	pc							pc		cl	pc	pc				pc
Precipitation	tr		tr				tr																	
Wind	0-5	W/NW		0-5		0-10	0-5				0-10			calm	0-5	0-20	hrzy		0-5	0-10			0-10	0-20

young in Charles County; I added all my owls to the Somerset Breeding Bird Atlas maps. Many species have started, and some have completed, nesting; make an extra effort this year and take special note of additions to your county's Breeding Bird Atlas.

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179 Edgewood Ave., Audubon, N.J.

BALD EAGLES RETURN TO PRINCE GEORGE'S COUNTY

JOHN GREGOIRE

On February 20, 1982 while participating in a Washington, D.C. area raptor survey, Rich Dolesh and I had the good fortune to discover a new, active Bald Eagle (*Haliaeetus leucocephalus*) nest above the Prince George's County shore of the Patuxent River. Two adult birds were occupying the nest which was mounted high in a deciduous tree; the posture of one bird (remaining very low in the nest throughout the day) may be indicative of ongoing incubation.

This nest and the one Rich and I discovered on the Calvert County shore during the January 9 eagle survey, raise the known active lower Patuxent River nest count to two above and two below the riverfront community of Benedict. Observations of eagles aloft over this region tend to indicate a possibility of at least one additional, and as yet undiscovered, nest. The Calvert County nest was also occupied on the 20th. Interestingly, this nest also contained two adults with one remaining quite low in the nest; this nest is also high in a deciduous tree. The specific location of both nests has been reported to the Bald Eagle survey team and the hosting land owners have been notified and have agreed to maintain the "status quo" in the area and discourage human disturbance. The nests are quite large and are easily visible to the naked eye at distances ranging to three miles.

While the origin of the Prince George's County pair is unknown, the Calvert pair may have been displaced from a traditional nest in Dunkirk, Md. after a housing area sprang up in their midst. Reportedly, the pair remained at that location for one season despite the surrounding development activity. At that time, the property owner effectively evicted the eagles by cutting down their nesting tree.

Based on local research, nesting Bald Eagles have not graced Prince George's County in at least thirteen, and possibly as many as twenty years. The Patuxent is a flat water river that drops very little between Md. Rte. 214 and the area just above the port of Benedict where it becomes a tidal estuary. Hopefully, the two new nests above Benedict augur a general resurgence of the Bald Eagle in Prince George's County and specifically, on the Patuxent River. One can't help but believe that the many Ospreys and now, Bald Eagles, are a result of Prince George's County's and the State of Maryland's heavy support of protection of critical natural areas. More balanced assistance on the river from the other riparian counties could lead to a stable population of the Bald Eagle and other endangered or threatened species.

9509 Small Drive, Clinton, Md. 20735

BOOK REVIEW

READER'S DIGEST NORTH AMERICAN WILDLIFE

Susan J. Wernert, Ed. 1982. Reader's Digest, Pleasantville, N.Y. 577p. \$20.95.

Like Donald W. Stokes' *A Guide to Nature in Winter*, Reader's Digest's *North American Wildlife* came on the scene quietly, with too little fanfare and still not enough attention. *Wildlife* is a wonderful compendium — part field guide, part reference book — of nine different biological groupings, all tabbed for quick reference. The text informs and the all-color illustrations are magnificent. But the book is more than this, for it successfully attempts to show how these groupings relate to each other in forming a dynamic North American ecosystem. The preface contains a succinct description of the life cycle of Everglades National Park and proceeds directly to describe 30 different biotic areas found throughout this continent. For each, there is a state-by-state index identifying key areas which exemplify this habitat, along with a listing of a variety of the flora and fauna to be found within.

For each grouping, a wide range of species was selected, totaling more than 2,000 plants and animals. Mammals; birds; reptiles and amphibians; fish; mollusks, insects and other invertebrates; trees and shrubs; wildflowers; ferns, mosses, seaweeds, lichens; and mushrooms are the featured taxonomic groups. Each selected species within the group has a map showing its range; each has salient field marks checked prominently; each is illustrated with an important ecological consideration in mind — habitat, behavior, food preference, nesting site, etc. — and is given an appropriate habitat symbol(s).

Great care was taken with the Class Aves. Artist Chuck Ripper seems to be following Arthur Singer's pathway in illustrating many passerine birds in habitat. This is Ripper's best commercial work to date. John Yrizarry painted many of the birds, ranging from loons to woodpeckers. While his work lacks the zest of Ripper's, it nonetheless is accurate.

The book can be used by nearly everyone, young and old, experienced or novice. An attractive book which can be used in the field or in the library is a rare species indeed. Moreover, the very reasonable price puts this work in a class by itself.

The editors provide no bibliography from which the reader can be directed for more information about any section. This serious omission can be easily corrected in future editions.

I congratulate Reader's Digest for doing such a superb synthesis. At a time when other publishers are segmenting their nature series, this company seeks to teach that life on this continent, on this planet, is a contingent phenomenon, beautiful in detail but resplendent in variety. Such an effort not only merits our attention. It also deserves our patronage. You will not be disappointed.

Jon E. Boone

CONTENTS, SEPTEMBER 1982

A Maryland Nesting of the Golden-crowned Kinglet.....	Jon E. Boone	79
Advertising Rates.....		85
The Season — Spring Migration, 1982	Robert F. Ringler	86
Relation of Breeding Bird Species Richness to Habitat as Shown by the Silver Spring BBS	Jim Wilkinson	104
Statewide Bird Count, May 1, 1982	James Stasz	108
Bald Eagles Return to Prince George's County.....	John Gregoire	119
Book Review-Reader's Digest North American Wildlife	Jon E. Boone.....	120

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